SERIE TERZA — VOLUME X (1917-18-19)

ATTI

DELLA

ACCADEMIA SCIENTIFICA

VENETO-TRENTINO-ISTRIANA

GIÀ «SOCIETÀ VENETO-TRENTINA DI SCIENZE NATURALI»

FONDATA IN PADOVA NEL 1872

PADOVA
Stabilimento Tipografico Ditta F.lli Gallina di S. Salce
1919

P. A. SACCARDO

NOTAE MYCOLOGICAE

SERIES XXIII.

Fungi Philippinenses

a cl. Prof. C. F. Baker (1) collecti et communicati

Collector sollertissimus novam et insignem seriem (2) Fungillorum Philippinensium anno praeterito misit, quorum enumeratio sequitur. Species fere omnes ex insula Luzon (Lussonia) proveniunt et inprimis ex ejus regione Los Banos et ex proximo Monte Maquiling v. Makiling, (alt. 1098 m.), plantarum et praesertim fungorum ditissimis. Species plurimas novas (109) et quidem genera aliquot nova (4) distinxi (3); ingrate vero non pauca specimina, missa, licet aspectu nobili, quia vel nimis vetusta et vacua, vel insectis exesa, determinare nequivi.

Patavii, XX Junii MCMXVII.

---

(1) Professor Agronomiae in Schola Agriculturae ad Los Banos (Philipp.), nunc vero, pro tempore, Director Horti botanici Singapore (Malacca).

(2) Cfr. SACCARDO, Notae mycologicae, Ser. XVIII (1914) pp. 303-314, Ser. XIX (1915) pp. 126-128, Ser. XX (1916) pp. 198-216.

(3) Quod ad formas tam multas, imprimis Deuteromycetum attinet, quas specifice distinguere contigit, quaestio oritur an illae (et quam multae aliae!) rite distingui mereantur an non, nec negarem non paucas tantum notis morphologicis parcissimis a congeneribus europaeis differre, exempli gratia ex gen. *Diplodiae Gloeosporii, Helminthosporii* etc.; tamen si animadvertatur quam inter se remotae, quam solo, temperie et vegetatione diversae sint areae distributionis geographicae, praeferenda videtur institutio specierum novarum quam earum fusio cum speciebus, jam descriptis. Futura aetas, forte experientiae ope, dijudicabit.

TELEOMYCETAE

1. **Pterula subulata** Fr. - Syll. VI, p. 741.

Hab. ad culmos putres Bambusae, Los Banos 1902 (Leg. Doct. FOXWORTHY (comm. BAKER n. 145). Habitus aliquid recedens, hinc determinatio non omnino certa.

2. **Tremella bambusina** Sacc. sp. n.

Adpressa, irregularis, seriata, tenuis, 2-4 mm. longa, sed confluens, ceraceo-gelatinosa, ochraceo-mellea; basidiis sphaeroideis parallelis, varie oblique tenuiter septatis, 8-9 μ diam., hyalinis; sterigmatibus filiformibus sursum 2-4 ramulosis; sporis tereti-oblongis, rectis, curvulisve, 7 ≈ 2-2,5, hyalinis.

Hab. ad culmos emortuos, subputres Bambusae Flumeanae, Los Banos 1915 (3944). Circum circa conceptacula adest effusus, albus, pulverulentus status conidiophorus: conidiis sporae similibus 6 ≈ 2-2,5, hyalinis; conidiophoris fasciculatis, tenellis, 6-7 ≈ 1-2. Habitus potius *Dacryomycetis* sed fructificatio *Tremellae.*

3. **Kuehneola Fici** (Cast.) Butl., Syd. Ured. III p. 847 (Uredo).

Hab. in foliis languidis Fici odoratae, Los Banos, 1913 (1747). — Var. **moricola** (Henn.) Cfr. Syll. XVII p. 451. In foliis Mori albae, Los Banos, 1913 (2019), *Uredo.*

REYESIELLA Sacc. nov. gen. Uredinearum (Etym. a cl. S. A. REYES fungi inventore).

Teleutosori innato-erumpentes, nigricantes, prominuli. Teleutosporae cylindraceae in capitulum ellipsoideum plures arcte connexae et pedicellis in columnam conglutinatis suffultae, circumcirca paraphysibus eximiis filiformibus introrsum curvatis capitulum excedentibus cinctae. Uredosori ignoti.

Obs. Ab affini gen. *Ravenelia* differt cellulis sterilibus nullis et paraphysibus praesentibus; ab *Anthomycete* prae ceteris pedicellis compositis.

4. **Reyesiella anthomycoides** Sacc. sp. n.

Teleutosoris hypophyllis, densissime gregariis, nigricantibus, nudo oculo perithecioideis, 200 μ diam., tuberculiformibus, du-

riusculis; teleutosporis in capitulum ellipsoideum 50-60 ≈ 35-38, numero 8-10 dense conjunctis, tereti-clavulatis, 35-40 ≈ 7-8, fuligineis, pedicello communi, composito, deorsum incrassato 28-47 ≈ 18-22, dilute ochraceo-alutaceo suffultis; paraphysibus capitulum singulum v. saepius plura fasciculata obvallantibus, piliformibus, introrsus curvatis, 95-110 ≈ 4-5, amoene alutaceis.

Hab. in foliis subvivis Canarii sp., Los Banos, Oct. 1913, Legit cl. S. A. REYES, comm. BAKER (1962).

5. **Aecidium lagunense** Syd. - Bak. F. Phil. I p. 2068.

Hab. in foliis Telosmae, Los Banos 1913 (1569).

6. **Aecidium Paederiae** Diet. — Bak. F. Phil. I p. 2069.

Hab. in foliis Paederiae tomentosae, Los Banos 1913 (1979).

7. **Uredo Rhaphidophorae** Sacc. sp. n.

Soris hypophyllis, diu tectis, brunneis intus pallidis, gregariis, saepe nervisequis, 250-300 μ diam.; uredosporis globulosis, asperulis, dilutissime melleis, 22-25 μ diam.; pedicellis non observatis.

Hab. in foliis languidis Rhaphidophorae Merrillii, Los Banos. Oct. 1913 (1943). Forte affinis *Uredini Ari-italici* (Req.) Duby.

8. **Sphaerobolus minimus** Sacc. sp. n.

Conceptaculis in plagulas hypophyllas ellipticas, 4-5 mm. long. confertis, subiculo olivaceo-fusco, pulverulento-asperulo insertis, conico-piriformibus, apice obtusis, basi hyphulis fuligineis, 2 μ cr. cinctis, superficie asperulis v. breviter pilosiusculis, tenuiter coriaceis, fusco-olivaceis, 120-180 ≈ 70-100, initio clausis, dein circulariter apertis; contexu crasso, indistincte celluloso, fuligineo; operculo (seu sporangiolo) 50 μ diam., demun atro-nitente, discoideo; sporis globosis, 3,5-4 μ diam. levibus, crasse 1-guttatis, olivaceis, subinde glomerulatis; hyphis filiformibus, tenuissimis, continuis, 1 μ cr. hyalinis, hinc inde minutissime papillato-sporigenis, parce ramulosis.

Hab. in foliis emortuis, subputrescentibus Arengae spec. Los Banos, Majo 1914 (3307). Pili in superficie conceptaculi parci, interdum usque ad 14-16 ≈ 2,5, fuliginei. Loco, exiguitate et dehiscentia circulari non stellata a typo generis recedit, sed cui alio generi adscribam nescio.

9. **Balladyna velutina** (B. et Curt.) v. Höhnel, Bak. F. Phil. I p. 2081. *Ball. Gardeniae* Rac., Syll. XVI p. 411.

Hab. in foliis Gardeniae, Los Banos, 1913 (1416). Videtur ipsa, sed specimina sunt sterilia.

10. **Meliola perpusilla** Syd. Phil. Journ. 1913, p. 480.

Hab. in foliis Tylophorae (ex Asclep.) in M. Maquiling, 1914 (3834). Plagulae interdum (senio?) ampliores, quam a cl. Syd. descriptae.

11. **Meliola parenchymatica** Gaill. — Syll. XI p. 263.

Hab. in foliis Sapindi Saponariae, Los Banos, 1913 (1521).

12. **Meliola Alstoniae** Koord., Bak. F. Phil. I p. 2083. — Syll. XXII p. 53.

Hab. in foliis Alstoniae scholaris, Los Banos, 1913 (1788). Setae apice acutae; hyphopodia facile secedentia; sporidia 30 ≈ 12, saepe 3-septata.

13. **Meliola nigro-rufescens** Sacc. sp. n.

Plagulis amphigenis sed epiphyllis copiosioribus, nigricantibus, 6-8 mm. diam., interdum confluentibus, subcircularibus; hyphis radiantibus hyphopodiis capitatis et mucronatis typicis praeditis; setis copiosis, acutis, saepius incurvatis, opacissimis, 400-500 ≈ 6; peritheciis globulosis, 160-200 μ diam., nigricantibus sed contextu grosse celluloso, rufo-fusco, extus colliculoso praeditis; cellulis contextus 10-12 μ diam.; ascis ellipsoideis 45-50 ≈ 28-30, bisporis; sporidis constricto-4-septatis, 35-43 ≈ 15-17, fuligineis.

Hab. in foliis Canarii sp., Los Banos, Iulio 1913 (1420) -- Var. **Teramni** Sacc. v. n. Plagulis epiphyllis, minoribus, 2-3 mm. diam. setis 350 ≈ 6, rectiusculis; sporidiis 36 ≈ 12-13. In foliis Teramni uncinati, Los Banos, Sept. 1913 (1657).

14. **Meliola Hoyae** Sacc. sp. n.

Plagulis imprimis epiphyllis, e subcirculari irregularibus, 3-5 mm. latis (saepe in Gloeosporio parasilicis), opace nigricantibus; hyphis radiantibus, ramosis, 7-8 μ cr.; hyphopodiis capitatis, 18-19 ≈ 11-12, uniseptatis, fulvo-fuligineis, copiose praeditis; hyphopodiis mucronatis non observatis; peritheciis globulosis, obsolete ostiolatis, 80-90 μ diam.; setis interspersis rarissimis, 300 ≈ 11-12, aterrimis; sporidiis oblongis, utrinque rotundatis constricto-4-septatis, 42-44 ≈ 14-15, fuligineis.

Hab. in foliis emortuis Hoyae luzonensis, socio *Gloeosporio Hoyae*, Los Banos, Sept. 1913 (1842). Affinis *Mel. Montagnei* et *M. Uleanae*.

15. **Meliola lepisanthea** Sacc. sp. n.

Plagulis epiphyllis, raro hypophyllis, irregularibus, confluentibus et maculas 1-3 cm. formantibus, ex olivaceo nigricantibus; hyphis radiantibus, ramosis, fuligineis, utrinque hyphopodiis capitatis typicis praeditis; hyphophodiis mucronatis non observatis; peritheciis globulosis, astomis, 90-110 μ diam., contextu fuligineo; sporidiis cylindraceis, utrinque rotundatis, 4-septato-constrictis, 30-38 ≈ 10-11,5, badio-fuligineis; setis copiosis interspersis, cuspidatis, curvatis, 250--300 ≈ 7, obsolete septatis aterrimis, basi saepe bulbillosis.

Hab. in foliis Lepisanthis sp. Los Banos, Iun. 1913 (1279). Est e typo *Mel. amphitrichae* sed sporidia minora etc. Adest supra *Meliolam*, verisimiliter parasiticum, *Stemphylium muriculatum*, de quo cfr. suo loco.

FERRARISIA Sacc. n. gen. Perisporiacearum (Etym. a cl. mycologo italico Th. FERRARIS). Perithecia globulosa, subiculo carentia, membranacea, nigricantia, ostiolo genuino nullo, sed demum late rimose hiantia, contextu grumoso indistincte celluloso. Asci ovoidei, aparaphysati, octospori. Sporidia ovoidea minuta, continua, fuliginea. — Notis datis a ceteris Perisporiaceis videtur distinctum genus.

16. **Ferrarisia philippina** Sacc. n. sp.

Peritheciis epiphyllis, dense maculiformiter gregariis, irregulariter globosis perexiguis, 45-55 μ diam., superficialibus, subiculo nullo insidentibus, vertice demun stellatim v. irregulariter rimosis, nigris; ascis in quoque perithecio paucis (3-6) ovato-ellipsoideis, sessilibus, 20 ≈ 14-15, octosporis, aparaphysatis, sporidiis distichis, ovoideis, diu hyalinis, dein fuligineis, 6 ≈ 4,7, levibus, eguttalatis.

Hab. in folis subvivis Merremiae sp. e Convolvul., Los Banos, Oct. 1913 (1975). Subiculo deficiente et fabrica sporidiorum mox distinguitur.

17. **Asterina shoreana** Sacc. sp. n.

Epiphylla, late sed remotiuscule gregaria, maculas nebulosas formans; peritheciis dimidiatis, ratione majusculis, 240 μ diam.,

vertice demum stellatim rimosis, nigricantibus; contextu radiato ambitu in zonam pallidiorem 20 μ latam fimbriatam decurrente; mycelio tenuissimo e filamentis 6-7 μ cr. fuscis e perithecis radiantibus, repentibus; ascis globoso-ellipsoideis, sessilibus, 55-60 μ diam., octosporis, aparaphysatis; sporidiis conglobatis, constricto-didymis, loculo superiore crassiore et obtusiore, 30-40 ≈ 16, diu hyalinis, dein flavidis, demum brunneis.

Hab. in foliis languidis v. emortuis Parashoreae plicatae, Los Banos, Aug. 1913 (1766). Affinis *Ast. inaequali* Mont. sed asci et sporidia paullo minora.

18. **Melanochlamys leucoptera** Syd. Contr. Champ. Colomb. p. 438, fig.

Hab. in vaginis emortuis Schizostachyi sp. Los Banos, 1913 (1741). Eximia species inter Microthyriaceas et Dothydeaceas ambigens, sed Microthyriaceis propior.

19. **Micropeltis albo-marginata** Speg. — Syll. IX p. 1069.

Hab. in foliis subemortuis Hoyae luzoniensis, M. Maquiling, 1915 (4042). Videtur haec species, sed specimina sterilia.

20. **Phaeoscutella maquilingiana** Sacc. sp. n.

Peritheciis late remotiuscule gregariis, opace nigris, convexulis, dimidiatis, astomis, 240 μ diam.; contextu radiato, fuligineo, ambitu fimbriato; ascis ovato-ellipsoideis, minutissimis, sessilibus, apice obtusioribus, aparaphysatis, octosporis, 16-18 ≈ 14; sporidiis subtetrastichis v. conglobatis, teretiusculis, utrinque rotundatis, levitar curvis, 12 ≈ 3, olivaceo-fuligineis, 3-septatis, non constrictis.

Hab. in vaginis emortuis Schizostachyi acutiflori, M. Maquiling, Jan. 1914 (2728).

21. **Limacinia imperspicua** Sacc. sp. n.

Epiphylla, maculas subrotundas 3-5 mm. diam. nigricantes sed fere imperspicuas formans; peritheciis subglobosis, leviter papillatis, nigris, 80-90 μ d. mycelio filiformi intricato adpresso, fuligineo insertis, contextu sinuoso atrofuligineo; ascis oblongis, sessilibus, apice rotundatis, 40 ≈ 14, aparaphysatis, 8-sporis; sporidiis districtis, cylindraceis, curvulis (fere allantoideis) 4-septatis, utrinque obtusulis, non constrictis, 14-16 ≈ 3,5; ceratopycnidiis interspersis e basi bulbosa cylindraceis sursum

tenuatis sed summo apice obtusis, 190-200 × 12, apice tantum 6 μ cr. aterrimis (hucusque sterilibus inventis).

Hab. in foliis languidis Celtidis sp. Los Banos, Martio 1914 (2933). Habitus vix copnodiaceus, s d ejus characteres adsunt.

22. **Guignardia Manihoti** Sacc. Ann. Mycal. XII (1914) p. 304.

Hab. in caule emortuo Manihot utilissimae, Los Banos, 1913 (2831). -- Var. **Cajani**: Peritheciis 90-110 μ diam. ostiolo 9-12 μ diam. pertusis; ascis 35-40 × 9-10; sporidiis distichis 12-14 × 4,5-6. In caulibus emortuis Cajani indici, Los Banos, 1913 (1570). Legit M. B. RAIMUNDO, comm. BAKER. — Ad *Physalosporam guignardioidem* Sacc. valde accedit tam species quam varietas.

23. **Guignardia Arecae** Sacc. sp. n.

Maculis suborbicularibus majusculis, 15-20 mm. lat. sordide isabellinis, dilute brunneo-cinctis, demum griseis, distinctius epiphyllis; peritheciis gregariis globoso-lenticularibus, 90-120 μ diam. poro 18 μ diam. pertusis, nigricantibus; contextu dense celluloso atro-fuligineo; ascis oblongo-clavatis deorsum obtuse tenuatis, subsessilibus, 45-54 × 14-16, aparaphysatis; sporidiis distichis, elliptico-oblongis, utrinque praecipue apice rotundatis, 12-14,5 × 5,5-6, hyalinis, nubilosis.

Hab. in foliis emortuis Arecae Catechu, Los Banos, Sept. 1913 (1656). Imprimis maculis peculiaribus dignoscenda species.

24. **Guignardia? bambusina** Sacc. sp. n.

Peritheciis in series breves subparallelas dispositis et epidermide rimosa diu tectis, globulosis, 90-100 μ diam. nigris, subastomis, membranaceis; ascis linearibus, brevissime stipitatis, 35 × 4,7, octosporis, aparaphysatis; sporidiis monostichis, oblongo-fusoideis, continuis, utrinque acutulis, hyalinis, 6 × 2,5 (immaturis?).

Hab. in foliis emortuis Bambusae sp. Los Banos, Dec. 1912 (534). Dubia quia immatura observata, sed ob perithecia breviter seriata et epidermide veluti valvatim dehiscente tecta notabilis; series 0,5-1 mm. longa, 0,3 lata. An genuina *Guignardia* sp.?

25. **Physalospora nitidula** Sacc. sp. n.

Maculis amphigenis, subochraceis, vagis; peritheciis laxe gregariis innatis, epiphyllis, sed utrinque visibilibus, globulosis, atro-nitidulis, duriusculis, 300-350 μ diam. ostiolo impresso; contextu celluloso, parum distincto, castaneo; ascis cylindraceis brevissime stipitatis, apice obtusulis, 75-80 ≈ 9, parce filiformi-paraphysatis, octosporis; sporidiis oblique monostichis, ellipsoideis, utrinque rotundatis, 11-12 ≈ 7-7,5, nubilosis hyalinis.

Hab. in foliis languidis Cordiae Myxae, Los Banos, Dec. 1915 (3993).

26. **Physalospora linearis** Sacc. sp. n.

Peritheciis series longas angustissimas parallelas formantibus, innatis ostioloque minuto erumpentibus, globulosis, 100-150 μ diam., intus albis, dein totis nigris; ascis crasse clavatis, saepe flexis, deorsum sensim tenuato-stipitatis, 90-100 ≈ 12-14, crasse tunicatis; paraphysibus irregularibus, guttulatis; sporidiis distichis ellipsoideo-elongatis, 17-19 ≈ 6, utrinque obtusulis, nubilosis, hyalinis.

Hab. in culmis emortuis Zeae Maydis, Los Banos, Nov. 1913 (1997). Dispositione lineari mox dignoscitur et tunc a *Ph. zeicola* est omnino diversa.

27. **Physalospora rhacheophila** Sacc. sp. n.

Peritheciis gregariis vel hinc inde aggregatis, subcutaneis, vix erumpentibus, atris, 300-320 μ diam., intus albis, poro pertusis; contextu grosse parenchymatico atro-fuligineo; ascis tereti-clavatis, deorsum breviter stipitato-tenuatis, apice rotundatis, 55-60 ≈ 8-9, octosporis; paraphysibus articulatis, diffluentibus; sporidiis distichis oblongo-subrhombeis, utrinque acutulis, 17-19 ≈ 6, nubilosis, hyalinis.

Hab. ad rhachides emortuas Arengae mindorensis, Los Banos, Dec. 1915 (3931).

28. **Botryosphaeria oblongula** Sacc. sp. n.

Stromatibus densiuscule, late gregariis, innato-prominulis, et vix erumpentibus, longitudinaliter ovato-oblongis, nigricantibus, circ. 1 mm. long., 0,5 mm. lat.; peritheciis irregulariter globosis, minutis, subastomis, 80-90 μ diam., basi stromate immersis; contextu obsolete celluloso, fuligineo; ascis cylindraceis, deorsum breviter tenuato - (saepe incurvo) - stipitatis,

45-60 ≈ 7-7,5, apice rotundatis, octosporis; paraphysibus non observatis (jam resorptis?); sporidiis oblique monostichis, vel partim distichis, oblongulis, utrinque rotundatis, saepius inaequilateris, nubiloso-guttulatis, 15-16,5 ≈ 4-5, e hyalino dilutissime flavidulis.

Hab. in culmis emortuis Bambusae vulgaris, Los Banos, Oct. 1913 (1885). Stromatibus oblongulis, peritheciis non prominentibus et ascis cylindraceis a typo generis parum desciscit.

29. **Winteria rigidula** Sacc. sp. n.

Peritheciis hinc inde maculiformiter dense gregariis, opace nigris, omnino superficialibus, e globoso verticaliter oblongulis, 180-200 μ alt., levissime rugulosis, non collabentibus, ostiolo vix papillato, 20-30 μ diam., contextu indistincte celluloso, crassiusculo, fuligineo; ascis fusiformibus, utrinque acutis, 95-100 ≈ 11,5-12, subinde inaequilateris, octosporis, aparaphysatis, 6-8-sporis, interdum 4-sporis; sporidiis distichis, fusiformibus, curvatis, utrinque acutis, initio farctis v. guttulatis, demum 7-9-cuboideo-nucleatis, non constrictis, 55-60 ≈ 4,7, hyalinis.

Hab. in culmis emortuis Bambusae vulgaris, Los Banos, Oct. 1913 (1911). Valde affinis *W. oxysporae* a qua peritheciis rigidis nec umbilicato-collabentibus, verticaliter oblongulis, tenuissime rugulosis et dense confertis distinguitur.

30. **Anthostomella Sacchariferae** Rehm, Leafl. 1914 p. 2260. — Var. **Daemonoropis** Sacc. sp. n.

A typo recedit sporidiis paullo amplioribus, nempe 10-12 ≈ 4,5; ascis 45-50 ≈ 4,5, paraphysatis. Sporidia fuliginea, subinde diblasta cum intervallo hyalino; perithecia 180-200 μ diam.

Hab. in rhachide Daemonoropis emortua in M. Maquiling (3978). Perithecia nunc maculae late atratae subjecta, nunc sine macula. Fm. immaculata forte congruit cun *Anth. phoenicicola* Speg. quae anterior.

31. **Anthostomella miscanthea** Sacc. sp. n.

Peritheciis innatis, utrinque visibilibus, gregariis, globoso-ovoideis 0,3--0,5 mm. diam. obsolete papillatis, epidermide atrata tectis; ascis cylindraceis deorsum breviter tenuatis, apice rotundatis, 60--65 ≈ 6, octosporis; paraphysibus non observa-

tis ; sporidiis oblique monostichis, oblongo-ellipsoideis, inaequilateris, 11-12 ≈ 4-4,2, fuligineis, obsolete 1-guttatis.

Hab. in foliis emortuis Miscanthi japonici, M. Banahao, Dec. 1913 (2241) — Videtur affinis *Ant. paraguayensi* Speg. a qua differt situ in foliis, peritheciis majoribus epidermide atrata tectis, sporidiis vix compressis etc.

32. **Anthostomella sphaerelloides** Sacc. sp. n.

Maculis amphigenis indeterminatis, amplis, supra griseis, subtus subalutaceis ; peritheciis amphigenis, gregariis, punctiformibus, globoso-lenticularibus, 150-200 μ diam., subcutaneo-erumpentibus, ostiolo vix papillato ; contextu indistincte celluloso atro-fuligineo ; ascis minutis cylindricis, apice rotundatis, deorsum breviter tenuatis, mucoso-paraphysatis, 45-50 ≈ 4,5-5, octosporis ; sporidiis oblique 1-stichis, ellipsoideis, utrinque rotundatis, saepe inaequilateris, 8-9 ≈ 3,5-4, atro-fuligineis, obsolete 1--2--guttulatis.

Hab. in foliis languidis Uvariae sorsogonensis, Los Banos, Jan. 1916. Tenuitate omnium partium, quasi *Sphaerellae,* dignoscitur.

33. **Sordaria perileuca** Sacc. sp. n.

Peritheciis fimi superficie ex subiculo dealbatae semiimmersis, globosis, nigris, obtuse papillatis, 350 μ diam. membranaceo-firmulis ; subiculo ex hyphis filiformibus hyalinis formato; ascis tereti-clavatis, amplis 140---160 ≈ 12, apice rotundatis deorsum breviter tenuato-stipitatis, fugaciter filiformi-paraphysatis, octosporis; sporidiis oblique monostichis, diu gyriniformibus, oblique caudatis, hyalinis, demum superne ellipsoideis 19--20 ≈ 10, fuligineis.

Hab. in fimo animalis dicti Carabao in M. Maquiling, Dec. 1915 (3956). Peritheciis nigris in areis albis sitis species mox dignoscenda. Specimina non prorsus matura.

34. **Rosellinia Bakeriana** Sacc. sp. n.

Peritheciis laxe gregariis e basi lata leviter infossa superficialibus, globosis, breviter nigro-papillatis, 350--400 μ diam., junioribus atro-olivaceis levissime velutinis, demum nigricantibus ; indumento e pruina, non ex pilis formato ; contextu pachydermatico dense celluloso, nigricante; ascis cylindraceis, apice rotundatis, deorsum tenuatis, octosporis, 60--70 ≈ 7-7,5 ;

sporidiis oblique monostichis ovato--oblongis, leviter inæquilateris, utrinque obtusulis, 11 ≈ 5,5--6, fuligineis; paraphysibus copiosis, dilute ochraceis.

Hab. in ligno decorticato putrescenti speciei indet., M. Maquiling, Martio 1914 (2880).

35. **Rosellinia Cocoës** P. Henn. -- Syll. XXII p. 110.

Hab. in truncis putrescentibus Arengae mindorensis, Los Banos, 1913 (4300); in truncis Arengae sacchariferae, Los Banos. 1914 (2842). N. 2208 et 3180 in foliis Livistonae, ex M. Maquiling est forte hujus speciei forma minor foliicola; sed specimina sterilia.

36. **Rosellinia** (Coniochaete) **Raimundi** Sacc. sp. n.

Peritheciis dense gregariis superficialibus, globoso--conoideis, obtuse papillatis, fusco--nigris, 300 μ diam. pilosis; setulis remotiusculis filiformibus, subtortuosis, 40--80 ≈ 4, fuligineis, obsolete septatis; ascis jam resorptis; sporidiis ex ellipsoideo coffeaeformibus, 10 ≈ 7, e latere 5-6 μ cr. fuligineis, eguttatis.

Hab. in ramis emortuis Averrhoae Tilimbi ex Oxalid., Los Banos, Jul. 1913. Legit. M. B. RAIMUNDO, comm. BAKER (1409). Affinis *Ros. ambiguae* Sacc., dignoscitur peritheciis duplo majoribus, fusco-nigris, non aterrimis, setulis longioribus parce septatis, sporidiis non guttatis.

37. **Sphaerella Musae** Sacc. sp. n.

Maculis vagis, expallentibus, indeterminatis; peritheciis punctiformibus gregariis, globoso--lenticularibus, subcutaneo--erumpentibus, 150--180 μ diam., ostiolo rotundo 20--25 μ diam. pertusis; contextu obsolete, anguste celluloso, nigricante; ascis fasciculatis, aparaphysatis deorsum tenuatis, apice obtusulis, 45--50 ≈ 7,5-9, octosporis; sporidiis oblique monostichis v. distichis, fusoideis, utrinque obtuse tenuatis, 10-12 ≈ 2,3-2,5, hyalinis, 1--septatis, diblastis v. 4--guttulatis, non v. vix constrictis.

Hab. in caulibus emortuis Musae coccineae, Los Banos, Sept. 1916 (4443).

38. **Leptosphaeria** (Leptosphaerella) **oryzina** Sacc. sp. n.

Peritheciis glumicolis, subsparsis, punctiformibus, nigris, subglobosis; ascis aparaphysatis, tereti-fusoideis, 40 ≈ 7, sub-

sessilibus, octosporis; sporidiis distichis, fusoideis, leviter curvis, utrinque obtusulis, 16 × 3, tenuiter 3-septatis, brunneis.

Hab. in glumes emortuis Oryzae sativae, Los Banos, Aug. 1914 (3771 ex p.). Specimina non omnino matura, hinc species ulterius inquirenda.

39. **Ophiobolus maquilingianus** Sacc. sp. n.

Peritheciis laxe gregariis v. subsparsis, minutis, nigris, subcutaneo--erumpentibus globulosis, membranaceis, 250--300 μ diam., ostiolo breviusculo (?) sed faciliter labente; ascis teretifusoideis, breviter stipitatis, apice obtuse tenuatis, 140--150 × 12--14, octosporis; paraphysibus non observatis; sporidiis subtristichis, anguste fusoideo-filiformibus, 80-90 × 4--5, sub-5--septatis, non constrictis, hyalinis.

Hab. in rhachidibus emortuis Daemonoropis, M. Maquiling, Dec. 1915 (3975). Notis datis videtur forma distinguenda.

40. **Phyllachora Canarii** P. Henn. — Syll. XXII p. 411.

Hab. in foliis subvivis Canarii sp. Los Banos, 1913 (1419). Determinatio non omnino certa ob specimina imperfecta.

41. **Aulographum fimbriatum** Sacc. sp. n.

Peritheciis hinc inde dense irregulariter, gregariis et maculas atras, varias formantibus, superficialibus, applanatis, oblongis, 200 - 300 × 50 - 60, rima latiuscula percursis; contextu ex cellulis angustis subparallelis, radiantibus formato, fuligineo, basi zona eximie fimbriata pallidiore marginato; ascis cylindraceis brevibus, 25-30 × 6,5-7,5, sessilibus, apice rotundatis, crasseque tunicatis, 4-8-sporis, filiformi-paraphysatis; sporidiis subdistichis oblongis, utrinque obtusulis, 7--8 × 2--3, hyalinis, lenissime constictis.

Hab. in rhachidibus emortuis Daemonoropis, in M. Maquiling, Dec. 1915 (3978). — Affine *A. Donacis* Niessl et *A. atromaculanti* P. et S. sed peritheciis basi fimbriatis et non stellatim dispositis, ascis angustioribus etc. distinguitur.

42. **Lembosia Bromeliacearum** Rehm. — Syll. XVI p. 663.

Hab. in foliis adhuc vivis Ananassae sativae, Los Banos, 1915. Etsi exemplaria non plene matura, species videtur ipsa. Asci 20--30 × 20, octospori; sporidia didyma 15-17 × 7 subhyalina (non perfecte matura); subiculum pertenue.

43. **Nectriella maquilingica** Sacc. sp. n.

Peritheciis hinc inde sparsis v. in caespitulos approximatis, minutis, non collabentibus, dilute roseis, vix pruinulosis, 175-200 μ diam.; contextu tenui, celluloso, pallide roseo; ostiolo papillato; ascis tereti--clavatis, 60--65 ≈ 7--9, apice obtuse tenuatis, lumine bifoveolatis, deorsum sensim tanuatis 4-sporis; paraphysibus crassis (spuriis?); sporidiis distichis v. oblique monostiches oblongo--fusoideis, utrinque obtusiuscule tenuatis, 11-12 ≈ 3,6, nubilosis, hyalinis, continuis.

Hab. in ramis emortuis Leucaenae glaucae, M. Maquiling, Dec. 1915 (3928).

44. **Nectria sordescens** Sacc. sp. n.

Peritheciis in acervulos minutos 0,5-1 mm. latos gregarios 6--10 confertis, globosis, breviter papillatis non collabentibus, extus sordide fusco-purpureis, non omnino levigatis; contextu parenchymatico rubro; ascis tereti-fusoideis, apice obtusulis lumineque 2--foveolatis, 60 ≈ 6, octosporis; paraphysibus cylindraceis spuriis (ascis inevolutis?); sporidiis distichis oblongis, apice rotundioribus, 1-septatis, non constrictis, 11,5--12 ≈ 4,5, obsolete 2-4-guttulatis, hyalinis.

Hab. in ramis emortuis Leucaenae glaucae, Los Banos, Aug. 1913 (1605). Legil M. B. Raimundo, comm. Baker.

45. **Calonectria perpusilla** Sacc. sp. n.

Peritheciis glumicolis, sparsis, perexiguis, superficialibus, subglobosis, dilute aurantiacis, 80-85 μ diam., udis 90-100 μ diam., vertice obtusis, senio saepe collabentibus; contextu celluloso tenui, dilute roseolo; ascis teretiusculis, brevissime stipitatis, primitus apice abrupte-tenuatis, 8-sporis, minutissime 2-foveolatis, 35--40 ≈ 7; paraphysibus bacillaribus spuriis; sporidiis oblique monostichis fusoideis, diu continuis, demum 3--septatis, non constrictis, minute 2--4--guttulatis, rectis, hyalinis, 10-12 ≈ 2,4.

Hab. in glumis emortuis Oryzae sativae, Los Banos, Oct. 1914 (3802). Socium adest *Myrothecium Oryzae,* quod cfr. suo loco.

46. **Glaziella Bakeriana** Sacc. sp. n.

Stromatibus alte pulvinatis, 3--4 mm. diam., irregulariter e basi plana hemisphaericis, levibus, vix ostiolis minimis punctu-

latis, rufescentibus, extus demum nigricantibus, contextu celluloso fusco-purpureo; perithecis globulosis, stromate omnino immersis, plerumque monostichis, 1/3 mm. diam.; contextu celluloso saturate purpureo; ascis cylindraceis, exiguis, apice obtusulis, subsessilibus, 28-32 ≈ 4,5-5, octosporis, aparaphysatis; sporidiis monostichis, rarius medio distichis, ellipsoideis, apice rotundioribus, 7-8 ≈ 3,5, hyalinis, obsolete guttulatis.

Hab. in culmis emortuis Bambusae vulgaris, Los Banos, Oct. 1913 (1887). Eximius fungillus, habitu *Hypoxyli* sed fructificatione (quae rarius perfecta) et indole omnino diversus.

47. **Erinella setulosa** Sacc. sp. n.

Ascomatibus hypophyllis, perexiguis, in caespitulos numero 2-6 junctis, utricularibus, 170-200 μ diam., pallide cereis, carnosulis, vertice circulariter anguste apertis, ubique praesertim sursum satulosis, setulis cuspidatis 80-90 μ longis, basi 7-8 μ cr. dilute flavidis; excipulo celluloso e hyalino flavido; ascis tereti-clavatis, brevissime stipitatis, apice rotundatis, 120 ≈ 12, copiose filiformi-paraphysatis, octosporis; sporidiis parallele polystichis, bacillaribus, utrinque obtusulis, rectiusculis, fere longitudine asci, 3 μ cr., 5-7-septatis, non constrictis, minute obsoleteque guttulatis, hyalinis.

Hab. in foliis emortuis Bambusae Flumeanae, Los Banos, Dec. 1915 (4000). Species pulchella, ut videtur, bene distincta.

DEUTEROMYCETAE

48. **Phyllosticta marmorata** Cooke. — Syll. III p. 36.

Hab. in foliis albo-areolatis Malloti philippinensis, M. Maquiling, 1915 (4003). Sporulae non observatae, sed de specie nullum dubiam.

49. **Phyllosticta Raimundi** Sacc. sp. n.

Maculis vagis, indeterminatis, expallentibus, demum amplis; pycnidiis amphigenis, globoso-lenticularibus, 60-70 μ diam. pertusis; contextu celluloso, dilute fuligineo; sporulis exiguis, e globoso ellipsoideis, 3 ≈ 2-3, hyalinis.

Hab. in foliis partim vegetis Sapindi sp., Los Banos, Aug. 1913 (1577). Legit M. B. RAIMUNDO, comm. BAKER.

50. **Phyllosticta Porteana** Sacc. sp. n.

Maculis vagis, indeterminatis, expallentibus, demum amplis; pycnidiis amphigenis, globoso-lenticularibus, 60-70 μ diam.; contextu celluloso ochraceo-fuligineo, centrum versus dilutiore et irregulariter dehiscente; sporulis sphaericis, minutissimis, 3 μ diam. fuscidulis.

Hab. in foliis morientibus Alocasiae Portei, Los Banos, Apr. 1914 (3139).

51. **Phyllosticta Codiaei** Sacc. sp. n.

Maculis dilute olivaceis, vagis, amplis, non limitatis; pycnidiis epiphyllis, dense gregariis, globoso-lenticularibus, 80-100 μ diam., poro rotundo 9-10 μ diam. pertusis; contextu parum distincto, fuligineo; sporulis majusculis, obovatis, saepe obpiriformibus 9--10 ≈ 4,5, grosse 1--guttatis, hyalinis; sporophoris brevissimis, paliformibus.

Hab. in foliis morientibus Codiaei variegati, Los Banos, Jan. 1916 (4040), socia *Vermicularia conferta,* de qua mox dicam.

52. **Phoma herbarum** West. — Syll. III p. 133.

Var. **Disoxyli** Sacc. v. n. Pycnidiis subglobosis 240-300 μ diam., irregulariter perforatis; sporulis oblongulis 5--6 ≈ 1,8--2, obsolete 2--guttulatis, in basi sporifera subochracea sessilibus.

Hab. in petiolis emortuis Dysoxyli decandri, Los Banos, Sept. 1913 (1713).

53. **Phomopsis ricinella** Sacc. sp. n.

Pycnidiis late et densissime gregariis, subcutaneo-erumpentibus, nigris, longitudinaliter ovato-oblongis, 170-180 μ long., 90 μ lat.; contextu celluloso, fuligineo; ostiolo subrotundo, 7-10 μ diam,; sporulis oblongis 6 ≈ 2--2,5, obsolete 2--guttulatis, hyalinis; sporophoris fasciculatis, filiformibus, 12-14 ≈ 1,5, subinde, ut videtur, furcatis.

Hab. in caulibus emortuis Ricini communis, Los Banos, Dec. 1915 (3936). Forte huc spectat pro parte *Phoma striaeformis* D. et M.

54. **Phomopsis Copelandi** Sacc. sp. n.

Pycnidiis dense lateque gregariis e globoso oblongulis v.

subirregularibus, 200 μ longis, nigris, subcutaneo-erumpentibus, ostiolo irregulari pertusis; contextu grosse celluloso, fuligineo; sporulis tereti-oblongis, subrectis, 12--14 ≈ 3,5--3,7, nubilosis hyalinis; sporophoris filiformi-hamatis, 14--16 ≈ 1.

Hab. in caulibus emortuis Chisochiti v. Schizochyti sp. ex Meliac., Los Banos, Apr. 1913 (8891). Legit Doct. COPELAND, comm. BAKER.

55. **Phomopsis eumorpha** Sacc. sp. n.

Pycnidiis subcutaneo-erumpentibus, subsparsis, globulosis, 200 μ diam., nigris, ostiolo orbiculari 80 μ lato pertusis; contextu densissime celluloso, pachydermatico opace atro, strato interiore molliore proligero, subochraceo; sporulis biformibus: I. ellipsoideo--oblongulis obtusis 7--8,5 ≈ 3,6, nubilosis, non guttulatis, hyalinis, sporophoris 10 ≈ 2 suffultis; II. filiformibus, curvis, 20--25 ≈ 1 hyalinis, sporophoris brevioribus 4 ≈ 2 suffultis.

Hab. in ramulis emortuis Freycinetiae sp. in cacumine M. Maquiling, Junio 1914 (3428). Interdum adsunt maculae in ligno albicantes nigro-cinctae, quasi diaporthoideae, sed *Diaporthe* non occurrit.. Spoulae hamatae potius ut sporophora secundi ordinis habendae sunt.

56. **Vermicularia conferta** Sacc. sp. n.

Pycnidiis punctiformibus, hinc inde maculiformiter valde confertis, globulosis, atris, 90-100 μ diam., setulis inaequialtis, longioribus 130-170 ≈ 7, cuspidatis tortuosis nigricantibus; sporulis fusoideis, curvulis, sursum acutioribus, 20-25 ≈ 3, pluriguttulatis, hyalinis; sporophoris paliformibus 12 ≈ 3-4, guttulatis, subhyalinis.

Hab. in foliis Codiaei variegati, socia *Phyllosticta* (cfr.), Los Banos, Jan. 1916 (4040 *bis*).

57. **Dothiorella maculosa** Sacc. sp. n.

Stromatibus oblongo-ellipticis 1 mm. long., 0,5 mm. lat.; initio epidermide tectis, mox erumpentibus, nigris, epiphyllis; pycnidiis dense congestis, globulosis 40 μ diam., ostiolo circulari 12--25 μ diam. pertusis, raro subsolitariis et tunc usque ad 90-100 μ lat. contextu parenchymatico fuligineo; sporulis elliptico-oblongis, utrinque acutulis, 5,5-6 ≈ 2,3, hyalinis; sporophoris non observatis.

Hab. in foliis emortuis Pandani Sabutan, Los Banos, Dec. 1915 (4033). Ubi stromata evolvuntur, serius maculae in folio generantur tortuosae, alutaceae, nigro-cinctae.

58. **Cytospora angularis** Sacc. sp. n.

Stromatibus fructicolis, gregariis, innato-erumpentibus, pulvinatis, 700 μ latis, disco sordido v. nigricante, vix punctulato subrotundo; loculis in quoque stromate 5--7 radiantibus, 150-170 μ diam., in sectione horiz. triangularibus, intus albis, excipulo nigricante; sporulis perexiguis, allantoideis, 3--4 × 0,7-1, hyalinis; sporophoris fasciculatis, 7--9 × 1.

Hab. in fructibus Arengae sacchariferae emortuis, Los Banos, Febr. 1914 (3654 *bis*). Socium adest *Dendrodochium vagans* (cfr.). Imprimis loculis fere exacte triangularibus dignoscenda species.

59. **Haplosporella Bakeriana** Sacc. sp. n.

Stromatibus late gregariis, disciformibus, innatis, poro epidermico subrotundo v. irregulari erumpentibus, nigris, 0,5--0,7 mm. latis; pycnidiis 4--6 in quoque stromate, majusculis, globosis v. oblongis, intus griseis; sporulis regulariter ellipsoideis, 16--17 × 7-9, atro-fuligineis, jugiter continuis, subinde grosse 2--guttatis, atro-fuligineis; sporophoris bacillaribus, interdum curvatis, 10--12 × 1,8, hyalinis.

Hab. in ramis emortuis Acaciae Farnesianae, Los Banos, Aug. 1913 (1530). Pulcra species!

60. **Haplosporella lussoniensis** Sacc. sp. n.

Stromatibus dense et late gregariis, erumpentibus, prominentibus (ut *Botryosphaeria*) 0,7--1 mm. latis, nigris; pycnidiis minutis, botryoso-prominulis, globosis, 180--200 μ diam., vix papillatis; sporulis obovatis, continuis, apice late rotundatis, 16--17 × 9; sporophoris paliformibus aequilongis.

Hab. in cortice emortuo arboris indeterminatae, Los Banos, 1913 (1270). Legit S. A. Reyes, comm. Baker.

61. **Haplosporella melanconioides** Sacc. sp. n.

Stromatibus subcutaneis, demum erumpentibus, ellipticis, nigris, 600-700 × 180-200; pycnidiis globulosis, nunc 60-100 μ diam., nunc minoribus, saepe irregularibus et depressis, ostiolo vix papillato, orbiculari 7--15 μ lato; contextu irregulariter celluloso, fuligineo; sporulis copiosissimis, tereti-oblongis, rectis

v. inaequilateris, 8--12 ≈ 3,5--4, olivaceo-fuscis, obsolete 1--guttatis ; sporophoris fasciculatis, filiformibus 7-12 ≈ 1,5--2, e hyalino dilutissime olivascentibus.

Hab. in culmis emortuis Sacchari officinarum et S. spontanei, Los Banos, Febr. Aug. 1912--1916 (14, 1493, 1829, 1163, 2499, 4275, 4276). Pro aetate multum variat; interdum pycnidia subsolitaria *Coniothyrium* simulant; sporulae copiosissimae facile eructantur, matricam atro-inquinant et *Melanconium* v. *Coniosporium* in mentem revocant. Verus Proteus!

62. **Diplodia faecundissima** Sacc. sp. n.

Pycnidiis hinc inde in greges oblongos erumpentes sociatis, globosis, obtuse papillatis, 300 μ diam.; contextu grosse celluloso fuligineo; sporulis elliptico-ovoideis, diu hyalinis continuis, dein constricto-didymis, rufo-fuligineis, 24--26 ≈ 12--14, intermixtis paraphysibus filiformibus, hyalinis, 60--70 ≈ 1 ; sporophoris brevibus.

Hab. in cortice emortuo Semecarpi Perrottetii ex Anacard., Los Banos, Jul. 1913 (1403). Legit M. B. RAIMUNDO, comm. BAKER. Sporulae copiosissimae, demum eructatae et matricem atro-inquinantes.

63. **Diplodia Manihoti** Sacc. Ann. mycol. 1914 p. 310.

Hab. in caulibus emortuis Manihot utilissimae, Los Banos, Aug. 1913 (1620). Legit. M. B. RAIMUNDO, comm. BAKER.

64. **Diplodia ureniana** Sacc. sp. n,

Pycnidiis dense lateque gregariis, subcutaneo--erumpentibus, globulosis, 240 μ diam., ostiolo subirregulari pertusis; contextu indistincte celluloso, atro-fuligineo; sporulis ellipsoideis, utrinque acutulis, 26 ≈ 11--12, uniseptatis, non constrictis, fuligineis ; sporophoris non observatis.

Hab. in caulibus emortuis Urenae sinuatae ex Malvac., Los Banos, Sept. 1913 (1675).

65. **Diplodia diacanthina** Sacc. sp. n.

Pycnidiis hinc inde dense confertis, erumpentibus, globulosis, nigris, 260-300 μ diam., ostiolo exiguo pertusis; contextu celluloso, fuligineo; sporulis ellipsoideis ; utrinque rotundatis, didymis, leviter constrictis, 20-22 ≈ 11-12, fuligineis ; sporophoris non observatis.

Hab. in caule emortuo Euphorbiae (Diacanthii) neriifoliae, Los Banos, Julio. 1914 (3656); socio *Gloeosporio decipiente* (cfr.).

66. **Diplodia Lagenariae** Sacc. sp. n.

Pycnidiis fructicolis, latissime denseque gregariis, minutis, globoso-depressis, subcutaneis, vix erumpentibus, 95-100 μ diam. ostiolo obsoleto; contextu celluloso olivaceo-fuligineo; sporulis ellipsoideis, utrinque acutulis 20–21 ≈ 9-10, demum fuligineis, 1-septatis, non v. vix constrictis; sporophoris bacillaribus, 12 ≈ 2, hyalinis.

Hab. in cortice fructus Lagenariae vulgaris, Los Banos, Majo 1913 (1172).

67. **Diplodia Mori** West. – Syll. III, p. 351.

Hab. in ramis corticatis emortuis Mori albae, socia *Hapographii* specie immatura, Los Banos, Febr. 1913 (782).

68. **Diplodia Aurantii** Catt. – Syll. III p. 330.

Hab. in cortice trunci emortui Citri nobilis, Los Banos, Oct. 1913 (1870).

69. **Diplodia tamarindica** Sacc. sp. n.

Pycnidiis erumpentibus, subsuperficialibus, subsolitariis, saepius vero in greges minutos sociatis, globulosis, 0,5-1 mm. lat. aterrimis, obsolete, saepe irregulariter papillatis, subinde senio subumbilicatis; contextu grosse celluloso, duriusculo, fuligineo; sporulis ellipsoideo-ovatis, sursum rotundioribus, 14–16 ≈ 7-7,5; sporophoris non observatis.

Hab. in cortice emortuo Tamarindi indici, Los Banos, Oct. 1913 (1199). Ad *Botryodiplodiam* nutat.

70. **Diplodia Lablab** Sacc. sp. n.

Pycnidiis late, densiuscule gregariis, globulosis, subcutaneo-erumpentibus, nigris, 180-200 μ diam., ostiolo rotundo 10 μ diam. pertusis; contextu celluloso, fuligineo; sporulis elliptico-ovoideis, 1-septatis, leniter, constrictis, 20 ≈ 9-9,5, fuligineis; sporophoris non observatis.

Hab. in caulibus Dolichi Lablab, Los Banos, Oct. 1914 (3740).

71. **Diplodia Ananassae** Sacc. sp. n.

Pycnidiis late gregariis, subcutaneo-erumpentibus, exiguis, globulosis, 160 μ diam., ostiolo minuto irregulari praeditis;

contextu grosse parenchymatico, fuligineo; sporulis ellipsoideo-oblongulis, 23-25 ≈ 11-12, diu hyalinis, demum fuligineis, 1--septatis, non constrictis; sporophoris paliformibus.

Hab. in foliis emortuis Ananassae sativae, Los Banos, Sept. 1916 (4444).

72. **Diplodia Fructus-Pandani** Henn. — Syll. XXII p. 1000. Fm. **foliorum** Sacc.

Hab. in foliorum vaginis emortuis Pandani sp. Los Banos, Aug. 1913 (1437). Legit S. A. Reyes, comm, Baker. Exemplaria immatura, sed suspicor formam esse foliicolam speciei praesentis.

73. **Diplodia epicocos** Cooke. — Syll. III p. 372.

Hab. in petiolis foliorum Cocoës nuciferae, Los Banos, Sept. 1912 (53). Sporulae 20-22 ≈ 11-12. — Var. **minuscula** Sacc. n. v. Pycnidiis vix 150-160 μ diam.; sporutis 22--24 ≈ 14--15, non v. vix constrictis, fuligineis. In cortice fructus Cocoës nuciferae, Los Banos, Jul. 1913 (1407). Legit. S. A. Reyes, comm. Baker.

74. **Diplodia anthophila** Sacc. sp. n.

Pycnidiis floricolis, subgregariis, erumpentibus, globulosis, 120-130 μ diam., poro pertusis; contextu celluloso, fuligineo; sporulis elliptico-oblongulis, 20--25 ≈ 9--10, uniseptatis, non constrictis, fuligineis, 2--guttatis; sporophoris non observatis.

Hab. in floribus dejectis, putrescentibus Caryotae Cumingii, Los Banos, Sept. 1913 (1823). Imprimis e loco, ubr nascitur, dignoscenda species.

75. **Diplodia arengocarpa** Sacc. sp. n.

Pycnidiis fructicolis, subgregariis, erumpentibus, 200-300 μ diam., nigris, ostiolo subrotundo 15 μ diam. pertusis; contextu celluloso fuligineo: sporulis ovato-oblongis, 26-28 ≈ 9--11, diu hyalinis, demum 1--septatis, constrictulis, fuligineis; sporophoris non observatis.

Hab. in fructibus dejectis subputrescentibus Arengae saccharíferae, Los Banos, Jul. 1914 (3654).

76. **Diplodia albo-tecta** Sacc. sp. n.

Pycnidiis late denseque gregariis, nigris, diu epidermide dealbata tectis, globoso-depressis, 0,5 mm. diam., papillatis; contextu grosse parenchymatico atro--fuligineo; sporulis ellip-

soideis, utrinque rotundatis, 18--20 ≈ 10--12, rarius usque ad 26 ≈ 9,5, diu hyalinis, demum 1-septatis, non constrictis, fuligineis; sporophoris non observatis.

Hab. in petiolis emortuis Arengae sacchariferae, Los Banos, Aug. 1915 (1442). An epidermis petioli dealbatur ope fungi?

77. **Diplodia arecina** Sacc. sp. n.

Pycnidiis seriatim gregariis, globoso-depressis, nigris, subcutaneo-erumpentibus, 180-200 μ diam., poro rotundo 25 μ diam. pertusis; contextu celluloso circa ostiolum densiore; sporulis elliptico-ovoideis, diu hyalinis, continuis, dein 1--septatis, non constrictis, fuligineis, 26-28 ≈ 11,5--12; sporophoris paliformibus brevibus.

Hab. in vaginis foliorum emortuis Arecae Catechu, Los Banos, Jun. 1914 (3536).

78. **Botryodiplodia tanaria** Sacc. sp. n.

Stromatibus laxe gregariis erumpentibus, pulvinatis, 1,5--2 mm. diam., nigris; pycnidiis subglobosis, obtusis, confertis, 0,5 mm. diam.; contextu grosse parenchymatico, fuligineo; sporulis subsessilibus, diu hyalinis, continuis, demum 1--septati, non constrictis, 18-24 ≈ 10-12, fuligineis, elliptico-ovoideis.

Hab. in cortice emortuo Macarangae Tanarii ex Euphorb. Los Banos, Jul. 1913 (1411). Legit M. B. RAIMUNDO, comm. BAKER.

79. **Brotryodiplodia filigera** Sacc. sp. n.

Stromatibus gregariis v. subsparsis, pulvinatis, ex orbiculari angulosis, nigris peridermio fisso cinctis, 1,5--3 mm. diam.; intus albis; contextu grosse celluloso, fuligineo; sporulis ovato-ellipsoideis, apice rotundioribus, diu hyalinis, continuis, dein badio--fuligineis, 1-septatis, non constrictis, 24--26 ≈ 10-11; sporophoris paliformibus 8--10 ≈ 4-5, hyalinis; intermixtis paraphysibus filiformibus guttulatis, 50--60 ≈ 2.

Hab. in cortice emortuo Antidesmatis spec. ex Euphorb. Los Banos. Julio 1913 (1399). Legit M. B. RAIMUNDO, comm. BAKER.

80. **Botryodiplodia Moringae** Sacc. sp. n.

Stromatibus dense gregariis subcutaneis, parce erumpentibus, peridermio cinctis; pulvinatis, nigris, 0,5--0,7 mm. diam.,

pycnidiis in quoque stromate 2-8, globosis, 200 μ diam., obtusis; contextu grosse celluloso, fuligineo; sporulis subsessilibus elliptico-ovoideis, apice rotundioribus, 22--24 ≈ 10--11, diu hyalinis demum fuligineis, 1--septatis, vix constrictis.

Hab. in cortice emortuo Moringae pterygospermae, ex Legum. Apr. 1913 (974). Legit S. I. Reyes, comm. Baker. A *Diplodia Moringae* recedere videtur stromate nigro, paraphysibus nullis.

81. **Botryodiplodia ficina** Sacc. sp. n.

Stromatibus erumpentibus, pulvinatis, 0,7 mm. diam., v. saepius seriatim confluentibus; pycnidiis globulosis, nigris, minutis, 90 μ diam.; contextu parenchymatico cyaneo-fuligineo; sporulis ellipsoideis, 18--20 ≈ 9, 1--septatis, non constrictis, fuligineis, sporophoris non observatis.

Hab. in ramis corticatis Fici notae, Los Banos, Jun. 1913 (1242).

82. **Botryodiplodia calamina** Sacc. sp. n.

Stromatibus sparsis, diu peridermio tectis, demum erumpentibus, ovato-oblongis, 2 mm. long. nigris; pycnidiis distinctis, globuloso-depressis, 180-200 μ diam. ostiolo amplo, 40-50 μ lato pertusis; contextu grosse celluloso, fuligineo; sporulis ovato-ellipsoideis, diu hyalinis, demum fuligineis, 22-25 ≈ 11-12, 1-septatis, non constrictis.

Hab. in cortice emortuo Calami sp. M. Maquiling, Junio 1913 (1712). Stromatibus diutissime tectis species mox distinguitur.

83. **Diplodiopsis microspora** Sacc. sp. n.

Stromatibus gregariis in ligni superficie decorticata innato-erumpentibus, oblongis 300-500 ≈ 80-100, poro communi ligneo apertis, nigricantibus intus albidis; pycnidiis 4-6 in quoque stromate, globulosis, minutis, 50 μ diam., non papillatis; contextu celluloso atro-fuligineo; sporulis sphaeroideis, minutis, 6 μ diam., fuligineis, medio 1-septatis, non v. vix constrictis.

Hab. in ramo ligneo decorticato dejecto indet. Los Banos, Majo 1913 (1127). Fungillus sporulis sphaeroideis 1-septatis vere peculiaris. A typo gen. differret stromato innato-erum-

penti non superficiali, sporulis sphaeroideis etc., tamen genus novum condere taedet.

84. **Septoria lablabina** Sacc. sp. n.

Maculis alutaceo--rufis, subcircularibus, epiphyllis, saturate marginatis, dein centro pallidis, 2,5–3 mm. diam.; pycnidiis globoso--lenticularibus, poro rotundo pertusis, 80-90 μ diam. epidermide supra ostiolum circulariter perforata velatis; contextu badio-ochraceo; sporulis bacillaribus, curvulis utrinque obtusulis, obsolete 1-3-septatis, hyalinis, 45-50 ≈ 2-3.

Hab. in foliis languidis Dolichi Lablab, Los Banos, Mart. 1914 (2917). A *Sept. Lablabis* Henn. differt maculis omnino diversis et sporulis 1-3-septatis, paullo crassioribus.

85. **Septoria Miyakei** Sacc. et Trav. — Syll. XX p. 790 et XXII p. 1120, *Sept. longispora* Miyake non Auctor.

Hab. in glumis emortuis udis Oryzae sativae, Aug., Los Banos, 1914 (3791, ex parte).

86. **Rhabdospora Lebretoniana** Sacc. — Syll. III p. 579 — Var. **Cassiae** Sacc. v. n.

Pycnidiis gregariis, subglobosis, 150-180 μ d. ostiolo subirregulari 18-20 μ diam., pertusis; contextu grosse celluloso fuligineo; sporulis filiformi-hamatis, 18-22 ≈ 1-1,5, hyalinis; sporophoris fasciculatis, 7-10 ≈ 1.

Hab. in ramis emortuis Cassiae bacillaris, Los Banos, Dec. 1915 (3973). Adest saepe in ligno linea stromatica nigra tortuosa certe *Diaporthes* speciem revelans.

TROTTERIA Sacc. n. gen. Sphaerioidearum (Etym. a cl. botanico et mycologo Prof. ALEX. TROTTER). Pycnidia superficialia, membranacea, subglobosa, nigricantia, ostiolo rotundo dehiscentia, setis brunneis, septatis, divergentibus praedita. Sporulae tereti-elongatae 4-polyblastae, vel 3-pluriseptatae, hyalinae. — A *Trichoseptoria* differt pycnidiis omnino superficialibus; a *Stagonosporae* sect. *Gymnosphaera* recedit pycnidiis setosis.

87. **Trotteria setulosa** Sacc. sp. n.

Pycnidiis hypophyllis, subsparsis, globoso-conoideis, nigris, 170-200 μ diam., breviter setosis; setulis filiformibus, septatis, 40-55 ≈ 4,5, apice obtusulis, fuligineis, ubique laxe vestitis, demum calvescentibus; ostiolo rotundo 10--12 μ diam. prae-

ditis, basi hyphulis fuligineis parce cinctis; contextu parenchymatico, dilute fuligineo; pycnidii nucleo diu cellulis globoso-angulosis 12-14 μ diam. hyalinis (sporomorphis) farcto, dein sporigero; sporulis cylindraceis utrinque rotundatis, saepius curvulis, 22-24 $\approx$ 6-7, diu tetrablastis, dein 3-septatis, non constrictis, 4-guttulatis, hyalinis; sporophoris parum distinctis.

Hab. in foliis languidis Teramni uncinati, Los Banos, Jan. 1916 (4045).

88. **Trotteria venturioides** Sacc. sp. n.

Pycnidiis hypophyllis, subsparsis, globosis, longe setosis, nigris, minutis, 80-120 μ diam., setulis longis, obtusule cuspidatis, septatis, 180 $\approx$ 4, fuligineis imprimis parte superiore vestitis; ostiolo rotundo 14-16 μ diam.; contextu eximie paranchymatico dilute olivaceo-fusco; sporulis tereti-fusoideis, curvulis, sursum acutatis, 38-45 $\approx$ 4,5, hyalinis, 5-7-blastis, vel pluri-guttatis, non vero hucusque septatis visis; sporophoris brevibus, tenerrimis.

Hab. in foliis adhuc vivis sed languidis Glycines (Soja) hispidae, Los Banos, Sept. 1915 (4440). Quoad sporularum indolem praecedens nutat ad *Stagonosporam*, praesens ad *Septoriam*: habitus vero utriusque conformis.

89. **Leptothyrium Bakerianum** Sacc. sp. n.

Pycnidiis laxe gregariis, superficialibus, nigris, dimidiato-scutatis, 120-130 μ diam., poro centrali 14 μ diam. pertusis; contextu radiato fuligineo; sporulis sphaericis 3 μ diam. hyalinis.

Hab. in caulibus emortuis Cajani indici e Legum. Los Banos, Majo 1914 (3434).

90. **Leptothyrium erosum** Sacc. sp. n.

Pycnidiis gregariis hypophyllis, nigris, dimidiato-scutatis, 120-150 μ diam., facile secedentibus, margine veluti erosis, ostiolo subrotundo 9-12 μ diam.; contextu obsolete radiato, circa ostiolum densiore; sporulis oblongis, utrinque obtusulis, 4-4,5 $\approx$ 2,3, hyalinis, minute 2-guttulatis; sporophoris minutissimis.

Hab. in foliis languidis Bauhiniae monandrae, Los Banos, Oct. 1914 (3806).

91. **Actinothyrium maculosum** Sacc. sp. n.

Pycnidiis dense latissimeque gregariis, maculas amplas nigras formantibus, epiphyllis, dimidiato-scutatis, 100–200 μ diam., centro irregulariter rimoso dehiscentibus; contextu eximie radiatim prosenchymatico, fuligineo, ambitu breviter fimbriato; sporulis bacillaribus, curvulis, 8-9 ≈ 0,5, hyalinis.

Hab. in foliis languidis Calami sp. Hills Fack pr. Paete, prov. Laguna, Apr. 1914 (3117). Ob pycnidia parce fimbriata a typo desciscit, sed sporulae bacillares generis.

92. **Aschersonia novo-guineensis** Henn. — Syll. XVI p. 985.

Hab. in pag. inferiore foliorum languidorum Fici ulmifoliae, Los Banos, 1913 (4290). Sporulae fusoideae, utrinque acuminatae 11-13 ≈ 2, hyalinae; sporophora filiformia, parallele stipata, 35 ≈ 1.

93. **Aschersonia ? microspora** Sacc. sp. n.

Pycnidiis laxe gregariis, hypophyllis, disciformibus, ceraceo-mollibus, superficialibus et mox secedentibus, 0,7–1 mm. diam., albidis, pilosulis, ambitu non fimbriatis; sporulis perexiguis, fusoideis, hyalinis, rectiusculis, 3-4 ≈ 1; sporophoris brevissimis, acutis.

Hab. ad folia morientia Schizostachyi sp., verisimiliter in Coccidiis parasistica, Los Banos, Apr. 1914 (4313). Ob sporulas tam minutas mihi stirps dubia videtur.

94. **Gloeosporium Lebbek** Syd. Philipp. Journ. 1913 p. 305.

Hab. in leguminibus emortuis Albizziae Lebbek, Los Banos 1915 (3891). Legit Dr. COPELAND, comm. BAKER. Hypostroma nigricans, eximie minute cellulosum, pycnidii contextum simulans; conidia 16-21 ≈ 4,7-7, nubilosa, subhyalina; conidiophora paliformia, 5-6 ≈ 2, hyalina.

95. **Gloeosporium intermedium** Sacc. — Syll. III p. 702.

Hab. in foliis Citri spec. Vall. Morong, Prov. Rizal, Nov. 1913 (2017). Legit M. B. RAIMUNDO, comm. BAKER.

96. **Gloeosporium agatinum** Sacc. sp. n.

Acervulis subcutaneis, dein rimose erumpentibus, pallidis, demum nigricantibus, 250-300 μ long., 200 μ lat.; conidiis oblongo-allantoideis, utrinque rotundatis, leviter curvulis, hyalino-farctis, 14-16 ≈ 3; conidiophoris paliformibus brevibus ex hypostromate ochraceo orientibus.

Hab. in ramis Agati grandiflorae ex Legum., Los Banos, Dec. 1915 (3937).

97. **Gloeosporium decipiens** Sacc. sp. n.

Acervulis gregariis, minutis, pulvinatis, subcutaneis, dein erumpentibus et epidermide laciniata cinctis, 100-200 μ diam; hypostromate flavo-ochraceo; conidiis eximie fusoideo-falcatis, utrinque acutis, 18-23 ≈ 3,5-4, nubilosis hyalinis, demum in massulas melleas eructatis; conidiophoris paliformibus, acutulis, 9-12 ≈ 3-4, subhyalinis.

Hab. in caule emortuo Euphorbiae neriifoliae, Los Banos, Jul. 1914 (3656 *bis*) socia *Diplodia diacanthina*, quam cfr. Affine *Gl. Josephinae*, differt conidiis utrinque acutis, conidiophoris brevissimis, colore, matriceque.

98. **Gloeosporium Melongenae** Sacc. sp. n.

Acervulis dense gregariis, subcutaneo-erumpentibus, minutis, subochraceis, 100 μ diam.; conidiis oblongo-fusoideis, subrectis, basi acutioribus, 14-16 ≈ 4-5, hyalinis; conidiophoris paliformibus 7-8 ≈ 2,5 e basi stromatica flavida orientibus.

Hab. in cortice emortuo fructus Solani Melongenae, Los Banos, Jan. 1915 (3825).

99. **Gloeosporium perpusillum** Sacc. sp. n.

Maculis amphigenis, subrotundis, 4-6 mm. diam. supra alutaceo-ochraceis, infra ochraceo-viridulis; acervulis dense gregariis, punctiformibus, epidermide diu velatis, sordida ochraceis, 50-60 μ diam.; conidiis sphaericis, 2,8-3 μ diam. levibus, subhyalinis v. dilutissime flavidis, nubilosis; conidiophoris brevissimis, papilliformibus.

Hab. in foliis morientibus Kleinhoviae hospitae ex Büttneriaceis, Los Banos, Jan. 1914 (2870). Tenuitate et conidiis globosis a typo generis desciscit.

100. **Melanconium philippinum** Sacc. sp. n.

Acervulis laxe gregariis, subcutaneo-erumpentibus, longitrorsus oblongis, 700 μ long., 300 μ lat., peridermio rimoso tectis, subinde linea stromatica sinuosa nigra cinctis, nigris; conidiis elliptico-oblongis, utrinque rotundatis, 9-10,5 ≈ 3,6-4, fuligineis; conidiophoris minimis ex hypostromate subhyalino orientibus.

Hab. in culmis emortuis Rottboelliae exaltatae, Los Ba-

nos, Sept. 1913 (1667). Videretur quasi status primordialis *Haplosporellae melanconioidis*, de qua cfr.

101. **Melanconium operculatum** Sacc. sp. n.

Acervulis late gregariis, innatis, subglobosis, epidermide circulatim fissa dehiscentibus, 300 μ diam., nigris; operculo diu permanente; conidiis globosis v. subglobosis, levibus, nigricantibus, 4,7-6 μ diam., e latere levissime compressis; conidiophoris obsoletis.

Hab. in stipitibus dejectis Calami sp., Los Banos, Sept. 1913 (1678).

102. **Melanconium lineolatum** Sacc. sp. n.

Arcervulis laxe gregariis, oblongo-lanceolatis epidermide longitudinaliter anguste rimosa semitectis, nigris, 1 mm. longis, 140 μ latis; conidiis majusculis globosis v. levissime angulatis fuligineis, 20-24 μ diam., e latere subinde leviter depressis; conidiophoris minimas papilliformibus, hyalinis.

Hab. in culmis emortuis Sacchari officinarum, Los Banos, Dec. 1913 (2368). Nonnullis notis cum *Coniosporio vinoso* congruit, sed conidia nec obovata nec vinosa.

103. **Pestalozzia Palmarum** Cooke -- Syll. III p. 796.

Hab. in foliis emortuis Cocoës nuciferae et Arengae sacchariferae, Los Banos, Julio 1913 (1456, 1254). Legit S. A. Reyes, comm. Baker.

104. **Pestalozzia pauciseta** Sacc. Ann. mycol. 1914, p. 311.

Hab. in foliis Mangiferae indicae, Los Banos, Aug. 1913 (4307). Quam speciem ex hac matrice indicavi (Ann. mycol. 1913 p. 556) ut *Pestal. funeream*, potius huc spectat.

105. **Pestalozzia gibberosa** Sacc. sp. n.

Acervulis gregariis, amphigenis, minutis, diu epidermide velatis, nigris; conidiis ellipsoideis, valde inaequilateris, seu gibbis, totis 18--19 ≈ 6--7, utrinque acutis, 4--septatis non constrictis, loculis extimis sutriangularibus, hyalinis, loculis binis mediis 11-12 μ logis, atro-fuligineis, loculo secundo inf. saepius luteolo; setulis apicalibus 3-4 divergentibus, 7-12 ≈ 1; pedicello brevissimo 4 ≈ 1.

Hab. in foliis Litseae glutinosae, Los Banos, Dec. 1913 (2230). Affinis *Pest. pauciseta* sed crassior, magis gibba, setulis plerumque 3-4, etc.

106. **Steirochaete Ricini** Sacc. sp. n. (1).

Caespitulis punctiformibus, superficialibus, nigris; setis cuspidatis, saepe eurvulis, imperspicue septatis, atro-fuligineis, 700-900 μ long.; conidiis falcatis, utrinque acutis, guttulatis, hyalinis, 19-21 ≈ 2,5-3,5; conidiophoris paliformibus, acutulis, 7 ≈ 2,5, hyalinis.

Hab. in caulibus emortuis Ricini communis, Los Banos, Dec. 1915 (3939).

107. **Steirochaete lussoniensis** Sacc. sp. n.

Caespitulis gregariis, punctiformibus, nigris, superficialibus, 60-70 μ diam.; setis variae longitudinis, cuspidatis, fuligineis, imperspicue septatis, 40-100 ≈ 3,5-4, conidiis anguste fusoideo-falcatis, utrinque acutulis, 18-22 ≈ 4, hyalino-farctis; conidiophoris bacillaribus conidio paullo brevioribus, subhyalinis.

Hab. in caulibus emortuis Manihot utilissimae, Los Banos, Aug. 1913 (1578). Legit M. B. Raimundo, comm. Baker. A *Colletotricho lussoniensi* Sacc., differt caespitulis superficialibus, conidiis longioribus, setis acutis. An ejusdem forma?

108. **Steirochaete septorioides** Sacc. sp. n.

Caespitulis confluentibus, minutis, maculas vero valde amplas, irregulares, nigras formantibus; setis fasciculatis, cuspidatis rectis curvulisve, 35-55 ≈ 3,5,4, laete fuligineis, septatis; conidiis acicularibus, utrinque v. uno apice acutioribus, 21-25 ≈ 1,5-2, minutissime guttulatis v. farctis; conidiophoris paliformibus obsolete septatis, 9-10 ≈ 3,5.

Hab. in stipitibus emortuis Calami sp., M. Maquiling, Majo 1914 (3227). Caespituli singuli varie sinuato-angulosi.

109. **Steirochaete Ananassae** Sacc. sp. n.

Caespitulis laxe gregariis, superficialibus, amphigenis, nigris, 0,5-1 mm. lat. irregulariter circularibus; setis cuspidatis, apice tamen obtusulis, 60-80 ≈ 6, obsolete septatis ex hypostromate minute celluloso, flavicante oriundis; conidiis tereti-oblongis, utrinque rotundatis, 4,5-6 ≈ 2,3-2,7, dilute olivascentibus, rectis, farctis v. minutissime guttulatis.

---

(1) Meo sensu gen. *Steirochaete* est *Colletotrichum* omnino superficiale.

Hab. in foliis emortuis Ananassae sativae, Los Banos, Apr. 1914 (3181). Species ulterius in vivo examinanda.

110. **Oospora hyalinula** Sacc. — Syll. IV p. 17.

Hab. in foliis putrescentibus Lagerstroemiae speciosae, M. Maquiling, 1915 (3992); in ramis Citri, Los Banos, 1915 (3768); parasitica in Puccinia heterospora ad folia Sidae javensis, Los Banos, Dec. 1915 (4014). Sunt formae variae.

111. **Oospora perpusilla** Sacc. — Syll. IV p. 12.

Hab. in foliis udis putridis Piperis Betle, Los Banos, Majo 1916 (4299).

112. **Ramularia Malloti** Sacc. sp. n.

Maculis cinereo-fuscis, irregularibus, 2--3 mm. diam., epiphyllis; caespitulis minimis, crebris, pallidis; conidiophoris fasciculatis, filiformibus, irregularibus, 70-80 × 4,5-6, septatis, guttulatis, sursum longiuscule denticulato-sporigeris, hyalinis; conidiis oblongo-fusoideis curvulis, 26-28 × 7-7,5, 3-septatis, ad septa consrrictis, plerumque 4-guttulatis, hyalinis.

Hab. in foliis languidis v. emortuis Malloti sp. Los Banos, Martio 1914 (2986). Cum *Cercospora Malloti* non comparanda.

113. **Coniosporium Sorghi** Sacc. sp. n.

Caespitulis pulvinatis, minutis, sed plerumque confluentibus et maculas atras versiformes formantibus; conidiis globosis, 3,5-5 μ diam. e latere leviter compressis, 2,5 μ cr. badio-fuligineis; conidiophoris obsoletis.

Hab. in culmis emortuis et putrescentibus Sorghi vulgaris, Los Banos, Dec. 1915 (3926, 3950). Affine *Coniosp. gramineo* et *Coniosp. Bambusae.*

114. **Coniosporium Bambusae** (Th. et Bolle) Sacc. — Syll. IV p. 244.

Hab. in culmis putrescentibus Bambusae Flumeanae, Los Banos, Dec. 1915 (3951).

115. **Coniosporium dendriticum** Sacc. sp. n.

Caespitulis initio subreticulato-dendriticis, dein confluentibus et maculas latissimas nigras formantibus, superficialibus; hyphis sterilibus repentibus, parce ramosis, 4 μ cr. brevissimis; conidiis majusculis, perfecte ellipsoideis, levibus, 11-14 × 9-10, e latere leviter depressis, 7-8 μ cr.

Hab. in spathis emortuis Cocoës nuciferae, Los Banos Majo 1914 (3369). Videtur species praedistincta.

116. **Hormodendron cladosporioides** (Fr.) Sacc. — Syll. IV p. 310.

Hab. in spathis udis putrescentibus Cocoës nuciferae, Los Banos, Aug. 1913 (1458).

117. **Clasterosporium punctiforme** Sacc. sp. n.

Caespitulis glumicolis, nigris, punctiformibus; conidiis elliptico-oblongis, utrinque rotundatis, 2-septatis, leviter constrictis, fuligineis, loculis extimis interdum paullulo pallidioribus, 12-14 ≈ 6,5-7; conidiophoris tenerrimis, hyalinis, 4 ≈ 1,5.

Hab. in glumis putrescentibus Oryzae sativae, Los Banos, Aug. 1914 (3771); sociis *Septoria Miyakei* Sacc. et Trav. *Haplographio chlorocephalo* (Fres.) Grove et *Leptosphaeria oryzina*. Cfr. suis locis.

118. **Stemphylium muriculatum** Sacc. sp. n.

Parasiticum in mycelio *Meliolae;* effusum, hyphis repentibus filiformibus, tenerrimis, parce ramosis, tenuiter septatis, 4-4,5 μ cr., hyalinis; conidiis ad ramulos acrogenis e globoso cuboideis 14 μ diam., saepius cruciatim 4-cellularibus, rarius transverse 2-cellularibus, fuligineis, episporio ubique hyalino-muriculato.

Hab. in mycelio Meliolae lepisantheae ad folia Lepisanthis, Junio 1913 (1279 ex p.). Affine *Stamphylio asperulo* sed rite distinctum.

119. **Stemphylium leguminum** Sacc. sp. n.

Caespitulis hinc inde, saepe seriatim v. dendritice dispositis, carpophilis, nigricantibus; conidiis globoso-moriformibus, nunc 14-18 μ d. nunc 35-40 μ diam. articulis botryoso-prominulis 9 μ diam., atro-fuligineis; conidiophoris vagis teneris, septulatis, 3-4 μ cr., hyalinis, demum interdum brunneis.

Hab. in leguminibus putrescentibus Acaciae furcatae in prov. Cordoba Reipubl. Argentinae (1733). Legit H. M. Curran, comm. Baker. — Data occasione species inseritur, etsi non philippinensis. Socia adest *Phoma Acaciae* Penz. et Sacc.

120. **Stemphylium sphaericum** Sacc. sp. n.

Caespitulis atris, suborbicularibus, 1 mm. diam., dein confluentibus atro-maculosis; conidiis perfecte sphaericis, 20-28 μ

diam., aterrimis, opacis, ex cellulis copiosis concentrice dispositis 3-4 μ diam. formatis, peripherice minus opacis; hyphis intricatis repentibus, irregulariter ramosis, 2-3 μ cr., late fuligineis, obsolete septatis.

Hab. in ramulis emortuis decorticatis Barleriae cristatae ex Acanth. Los Banos, Dec. 1915 (3929). Nutat ad *Papulosporam* sed omnino phaeospora.

121. **Sporodesmium pulchellum** Sacc. sp. n.

Late effusum, atro-maculosum; conidiis majusculis, fusiformibus, subrectis, 50-68 ≈ 12-14, fuligineis, 8-10-septato-muriformibus, non constrictis, loculis extimis obtuse subtriangularibus hyalinis; pedicellis seu conidiophoris paliformibus, 16 ≈ 3-4, subhyalinis, guttulatis.

Hab. in ramis corticatis Sapindi Saponariae, Los Banos, Sept. 1915. Conidia vere pulchella.

122. **Pericoma pycnospora** Fres. — Syll. IV p. 271.

Hab. in pagina inf. foliorum emortuorum Sterculiae sp., M. Maquiling, Febr. 1914 (2942). Conidiophora 300-400 ≈ 12, apice digitato-ramulosa; conidia 12-13 μ diam.

123. **Haplographium chlorocephalum** (Fres.) Grove — Syll. IV p. 306.

Hab. in glumis putrescentibus Oryzae sativae, Los Banos, Aug. 1914 (3771 ex p.). Conidiophora 200 ≈ 8; conidia 4,7-5 μ diam.

124. **Trichosporium maculosum** Sacc. sp. n.

Hypophyllum, maculas atras irregulares formans; hyphis plerisque repentibus, irregulariter et copiose ramosis, ramis contortis, obtuse lobulatis, remote septatis, interdum assurgentibus et conidiophoris; conidiis elliptico-oblongis, inaequilateris, subinde coffeiformibus, 1-2-guttulatis, 10-13 ≈ 4,5-6, fuligineis, guttis refringentibus.

Hab. in foliis putrescentibus Conocephali spec. ex Artocarp., aliusque plantae ind. ex Urticaceis, Los Banos et M. Maquiling, Aug. 1913 (1598, 1798). Characteribus hypharum et conidiorum distincta species, licet a typo aliquid desciscens.

125. **Monotospora fasciculata** Sacc. sp. n.

Caespitulis crebro et late gregariis; hyphis conidiophoris in fasciculos erectos, 178-250 ≈ 50-60 dense conjunctis, singulis,

4,5-5 μ cr., obsolete septatis, fuligineis sursum dilutioribus, apice obtusulis et subinde leviter incrassatis sporigerisque; conidiis obovatis, basi acutulis, 14-16 ≈ 7-8, fuligineis, levibus.

Hab. in ramis emortuis putrescentibus Capparis horridae, Los Banos, Oct. 1913 (1738). Hyphis dense fasciculati praedistincta species, sed a typo generis recedens.

126. **Cercospora Stizolobii** Sydow Ann. Mycol. 1913 p. 270.

Hab. in foliis Stizolobii Deeringiani, Los Banos, 1913 (2030).

127. **Cercospora Bakeriana** Sacc. sp. n.

Hypophylla, maculas proprias subolivaceas inæquales, 3-5 mm. diam. formans; hyphis ramoso-intricatis, partim repentibus, brunneis, septatis; conidiophoris assurgentibus sursum parce denticulatis, 4,5--5 μ diam.; conidiis cylindraceis, crassiusculis, utrinque obtusulis, saepe curvulis, 6-8-septatis, non constrictis, 55-65 ≈ 5,5--6, dilute fuligineis.

Hab. in foliis languidis Malloti moluccani, Los Banos, Febr. 1914. A *Cercosp. Malloti* omnino diversa. Maculae foliorum nullae.

128. **Cercospora pachyderma** Syd. Ann. mycol. XII (1914) p. 203 *Cercosporina pachyderma* (Syd.) Sacc.

Hab. in foliis morientibus Dioscoreae alatae, Los Banos, 1913 (2052). Conidia cylindracea, saepe curvula, 70--80 ≈ 5-6, obsolete 3-4-septata, hyalina, tunica valde crassa et subchlorina; hyphae sordide ochraceae, saepe furcatae 5-6 μ cr.

129. **Cercosporidium Helleri** Earle, Syll. XVIII p. 594.

Hab. in foliis subvivis Sphenocleae zeylanicae ex Campan. Los Banos, Febr. 1916 (4296). Hyphae praelongae ramosae 95-220 ≈ 4-5 ex tuberculis (peritheciorum initiis) oriundae, septatae, conidia fusiformia, 21-34 ≈ 7-7,5, olivacea.

130. **Brachysporium intricatum** Sacc. sp. n.

Hypophyllum, maculas latas nigricantes, fere capnodiaceas formans; conidiophoris filiformibus, tortuosis, fasciculato-intricatis, 600--800 ≈ 3,5--4,5, obsolete septatis, ochraceo-fuligineis sursum paullo pallidioribus et tractu longiusculo crebro denticulatis; conidiis oblongo-ellipsoideis, 14-16 ≈ 5,5-6, utrinque imprimis apice rotundatis, 3-septatis, non constrictis, fuligineis, loculis extimis pallidioribus.

Hab. in foliis emortuis coriaceis dejectis indet., Los Banos, Apr. 1914 (3089).

131. **Helminthosporium melioloides** Sacc. sp. n.

Hypophyllum, maculas varias nigricantes, velutinas, irregulares formans; conidiophoris ex mycelio sterili subradianti surgentibus, filiformibus, subfasciculatis, 250-300 × 6-8, crasse tunicatis rufo-fuligineis, septatis, sursum denticulato-sporigeris, pallidioribus; conidiis obclavatis, sursum tenuatis, rectiusculis, 3-septatis, non constrictis, 35-45 × 9-10, laete fuligineis, crasse tunicatis, loculo altero v. binis intermediis saturatioribus.

Hab. in foliis emorientibus Uvariae sp. ex Anonac., Los Banos, Jun. 1277, 1278). Habitus melioloideus immo probabiliter *Meliolae* sp. s. conidiophorus.

132. **Helminthosporium curvulum** Sacc. sp. n.

Caespitulis hinc hinde sparsis, imprimis hypophyllis, nigricantibus, 1 mm. lat.; conidiophoris dense fasciculatis, filiformibus, 90-100 × 6-7, septatis, fuligineis, sursum pallidioribus obsoleteque denticulatis; conidiis obclavatis, distincte curvato-gibbis, 35-40 × 9-12, utrinque, praecipue basi rotundatis, 3-septatis, non constrictis, grosse 4-guttatis, fuligineis, loculis binis mediis obscurioribus.

Hab. in foliis emorientibus Bambusae Flumeanae, Los Banos, Jul. 1913 (1506). Praesertim forma conidiorum species distinguenda.

133. **Helminthosporium philippinum** Sacc. sp. n.

Late effusum, hypophyllum, maculas nigricantes velutinas, 4-6 cm. longas formans; conidiophoris laxiuscule fasciculatis, filiformibus, leviter curvis, simplicibus, septatis, 300-400 × 6-7, basi saepe bulbillosis, apice acutis; conidiis obclavatis, sursum acutatis, sub-4-septatis, non constrictis, 33-35 × 8-9, fuligineis loculis intermediis 2-3 suturatioribus.

Hab. in foliis emortuis Arengae mindorensis, Los Banos, Apr. 1914 (3094).

134. **Helminthosporium insigne** (Gaill.) Sacc. sp. n. *Meliolae insignis* st. conid. Gaill. Mel. t. VI f. 1.

Effusum, tenue, hypophyllum, fere melioloides; conidiophoris in fasciculos fere columnares, 600-800 × 50, nigrican-

tes conjunctis, 6-7 μ crassis, filiformibus, septatis, fuligineis, prope apicem relaxatis et deflexis, denticulatisque; conidiis obclavatis, saepe leviter curvatis, sursum obtusciuscule tenuatis, 4-5-septatis, non constrictis 45-55 ≈ 7-8, fuligineis.

Hab. in foliis emortuis Malloti philippinensis, Los Banos, Dec. 1913 (2338). Ob hyphas conidiophoras densiuscule fasciculatas ad *Podosporium* vergit. Sine dubio est st. conidiophorus *Meliolae insignis* Gaill.

135. **Helminthosporium maculosum** Sacc. sp. n.

Imprimis hypophyllum, velutinum, effusum, maculas varias, 3-10 mm. latas, nigricantes formans; conidiophoris laxiuscule fasciculatis, filiformibus, septatis, leviter flexuosis, 300 ≈ 5-6, fuligineis, apice obtusulo pallidioribus; conidiis breviter fusoideis, leviter inaequilateris, utrinque obtusulis, 22-24 ≈ 6-7, fuligineis 3-septatis, non constrictis, loculis extimis pallidioribus.

Hab. in foliis subvivis Litseae Perrottetii, Los Banos, Dec. 1915 (3998). Species habitu melioloideo et prob. cujusdam *Meliolae* st. conidicum sistens; immo occurrunt rudimenta peritheciorum ad basim conidiophororum.

136. **Helminthosporium ficinum** Sacc. sp. n.

Epiphyllum, adpressum, subvelutinam, maculas amplas, versiformes, 5-6 mm. lat. sed saepius confluendo ampliores formans; conidiophoris hinc inde caespitoso-fasciculatis, filiformibus, septatis, badio-fuligineis, 250 ≈ 6, apice pallidioribus, denticulatis; conidiis obclavatis, sursum longiuscule sensim attenuatis, 50-60 ≈ 6-8, subrectis, 4-5-septatis, non constrictis, badio-fuligineis sursum pallidioribus.

Hab. in foliis languidis Fici ulmifoliae et F. notae, Los Banos, Martio-Oct. 1913-1914 (1462, 1531, 1684, 1947, 3000, 4303). Prob. st. conidioph. *Meliolae* cujudam.

137. **Helminthosporium fumagineum** Sacc. sp. n.

Effusum, plerumque epiphyllum, maculas nigerrimas, velutinas, confluendo valde amplas formans; hypostromate membranaceo, ex hyphis filiformibus, dense intricatis, 3 μ diam. fuligineis formato; conidiophoris assurgentibus filiformibus, 240-300 ≈ 7, septatis, fuligineis, apice obtuse rotundatis pallidioribus; conidiis oblongo-obclavatis, basi subruncatis, apice obtuse tenuatis, 35 ≈ 9-10, tetrablastis, 3-septatis, fuligineis.

Hab. in foliis languidis Fici ulmifoliae, Dec. 1915 (4015). — Ab *Helm. ficino* certe diversum.

138. **Helminthosporium cuspidatum** Sacc. sp. n.

Caespitulis majusculis gregariis, nigricantibus setuloso-velutinis; conidiophoris laxe fasciculatis, filiformibus, rectiusculis, multiseptatis, 800-900 × 8-9, interdum hinc inde leviter inflatis, fuligineis, apice rotundatis; conidiis obclavatis, sursum longe tenuato-cuspidatis, ibique, saepe obliquatis, 100-130 × 11-12, dilute fuligineis, 8-12-septatis, non constrictis.

Hab. in ramis emortuis, dejectis Afzeliae rhomboideae, Los Banos, Jul.-Nov. 1913 (1527, 1982), aliarumque arborum indet., Los Banos, Aug. 1913 (1575, 1590). Legit S. A. Reyes, comm. Baker. — Affine *H. inverso* Sacc. differt conidiophoris angustioribus et longioribus, conidiis saepe curvatis, copiosius septatis etc.

139. **Helminthosporium phyllantheum** Sacc. sp. n.

Caespitulis minimis, setulosis, nigricantibus, saepius vero conidiophoris discretis, gregariis, filiformibus septatis, 180-200 × 4,7-6, fuligineis, sursum pallidioribus, apice obtusulis; conidiis obclavatis longe tenuato-cuspidatis, rectiusculis, dilute fuligineis 9-11-septatis, non constrictis, ad cuspidem dilutioribus, 80-90 × 9-10.

Hab. in ramulis emortuis dejectis Phyllanthi sp. Los Banos, Jan. 1913 (615).

140. **Helminthosporium sesameum** Sacc. sp. n.

Caespitulis minimis, setulosis, nigricantibus; conidiophoris laxe fasciculatis e basi bulbillosa filiformibus, subrectis, interdum hinc inde inflatulis, parce septatis, 300 × 6-7, fuligineis, apice summo inflato pallidiore; conidiis longe obclavatis, 18-20-septatis, non constrictis, 100-120 × 15-17, rarius tantum 80 × 12 et 12-15-septatis, dilute fuligineis, sursum sensim tenatis sed apice summo obtusulis.

Hab. in caulibus emortuis Sesami indici, Los Banos, Sept. 1913 (1653). Legit M. B. Raimundo, comm. Baker.

141. **Stilbum latericium** Berk. — Syll. IV p. 571.

Hab. in ramis emortuis Derridis, sp. Los Banos, Aug. 1913 (1467 ex p.). Legit M. B. Raimundo, comm. Baker. Adest *Stilbonectria* (?) immatura.

SPOROSTACHYS Sacc. nov. gen. (Etym. *spora* et *stachys*, spica, panicula).

Synnemata erecta, cylindrico-elongata ex hyphis filiformibus arcte conglutinatis formata, conidiophora e lateribus non ex apice synnematis exeuntia, deflexa. Conidia ovato-oblonga, continua, fusca v. fuliginea. — A gen. *Sporocybe* dignoscitur conidiis longe racemose nec capitato-dispositis. Ad hoc genus nonnullae *Sporocybes* species certe transmigrabuntur.

142. **Sporostachys maxima** Sacc. sp. n.

Synnematibus dense gregariis, maculasque latas setuloso-velutinas formantibus, e basi bulbillosa cylindraceo-cuspidatis, aterrimis, 1000-1800 μ long., basi 70-80 μ cr., ex hyphis angustissimis conflatis, ubique ramos conidiophoros divaricatos, septatos, brunneos, 4,5-5 μ cr., exerentibus; conidiis acrogenis exquisite reniformibus, levibus, 14 × 9,5, atro-purpureo-nigricantibus, 1-guttatis.

Hab. in petiolis putrescentibus Arengae sp., Los Banos, Oct. 1913 (1776). Forma synnematis et conidiorum praedistincta species.

143. **Sporostachys anceps** Sacc. sp. n.

Synnematibus sparsis v. subgregariis, fructicolis, e basi paullo incrassata cylindraceis, 600-1000 μ longis, basi 100 μ cr., ex hyphis filiformibus constipatis formatis; conidiophoris ex lateribus synnematis divaricatim exertis, septatis, pallide fuligineis, 4-5 μ cr.; conidiis e globoso obovatis, magnis, 40 × 30, rarius elongato-obovatis, 74 × 23, badio-fuligineis; episporio 3-4 μ cr., leviter asperulo, ima basi apiculo obtuso hyalino, minimo, pedunculari.

Hab. in fructibus putrescentibus Arengae sachariferae, Los Banos, Julio 1914 (3654 ex parte). Ob conidia ratione maxima species anceps et denuo inquirenda.

144. **Dendrodochium vagans** Sacc. sp. n,

Sporodochiis gregariis, 100-200 μ diam., pulvinatis, albis, molliusculis, superficialibus; conidiophoris fasciculatis, ramoso-di-trichotomis, totis 25-32 × 2,3, ramulis inferioribus et superioribus 9-10 × 2-2,5, hyalinis; conidiis ellipsoideis, 4,7 × 2,3, levibus, hyalinis, 2-guttatis.

Hab. in ramis dejectis putrescentibus Justiciae Gendarussae, Los Banos, Aug. 1914 (3767) et in fructibus Arengae sacchariferae, Los Banos, Jul. 1914 (3954 ex parte). Conidiophororum partitiones potius *Fusarii* sed magis exiguae et conidia *Dendrodochii*.

145. **Tubercularia versicolor** Sacc. — Syll. IV p. 644.

Hab. in ramis dejectis Derridis sp., Los Banos, Aug. 1913 (1467). Legit M. B. RAIMUNDO, comm. BAKER

146. **Illosporium ? tabacinum** Sacc. Ann. mycol. 1915 p. 128.

Hab. in foliis languidis Macarangae Tanarii ex Euphorb., Los Banos, Majo 1914 (3522). Saepe hypharum apices in glomerulos spirales globoso-ovoideos 14-25 μ lat. convoluti sunt, praetereaque intermixta occurrunt granula perexigua, 0,1-0,2 μ diam., oscillantia subochracea, quorum natura latet.

147. **Illosporium perminutum** Sacc. sp. n.

Sporodochiis in maculis subrotundis nigricantibus epiphyllis 1,5-2 mm. diam. (naturae ignotae!) superficialibus, irregulariter globosis, 40-50 μ diam. sessilibus, albidis; conidiophoris radiantibus, filiformibus, 12-20 × 1, continuis; conidiis globosis, levibus, 2,5-3 μ diam., e hyalino dilutissime melleis, interdum racemulosis.

Hab. in foliis emortuis nigro-maculatis Macarangae grandifoliae, M. Maquiling, Apr. 1914 (3180). Forma insueta ulterius inquirenda.

148. **Myrothecium Oryzae** Sacc. sp. n.

Sporodochiis superficialibus, sparsis, disciformibus, aterrimis, 0,3-0,5 mm., glabris, non discolori-marginatis; conidiis fusoideis, rectis, utrinque acutis, 7,5-8 × 2,3, dilute olivaceis, minute 2-guttulatis; conidiophoris brevissimis.

Hab. in glumis udis Oryzae sativae, Los Banos, Oct. 1914 (3802 ex parte). — Ab affini *Myr. trochiloide* differt conidiophoris papilliformibus brevissimis, non filiformibus et parvitate.

149. **Fusamen calceum** Sacc. sp. n.

Sporodochiis pulvinatis, minutis, e circulari irregularibus, 0,5-1 mm. diam., mox confluentibus et matricem strato sub-

pulveraceo quasi calceo, albido obducentibus; hypostromate crassiusculo celluloso albido; conidiophoris paliformibus, 5--7 ≈ 1, acutulis; conidiis fusiformibus, utrinque acutis, 6 ≈ 2, continuis, hyalinis.

Hab. in culmis emortuis Bambusae Flumeanae, Los Banos, 1915 (3944). Ad *Fusidium* nutat sed conidia catenulata non vidi.

INDEX GENERUM

Actinothyrium, pag. 81 — Aecidium, 59 — Anthostomella, 65 — Aschersonia, 81 — Asterina, 61 — Aulographum, 68 — Balladyna, 60 — Botryodiplodia, 77 — Botryosphaeria, 64 — Brachysporium, 88 — Calonectria, 69 — Cercospora, 88 — Cercosporidium, 88 — Clasterosporium, 86 — Coniosporium, 85 — Cytospora, 73 — Dendrodochium, 92 — Dothiorella, 72 — Diplodia, 74 — Diploidiopsis, 78 — Erinella, 70 — Ferrarisia, 61 Fusamen, 93 — Glaziella, 69 — Gloeosporium, 81 — Guignardia, 63 — Haplographium, 87 — Haplosporella, 73 — Helminthosporium, 86 — Hormodendron, 86 — Illosporium, 93 — Kuehneola, 58 — Lembosia, 68 — Limacinia, 62 — Leptosphaeria, 67 — Leptothyrium, 80 — Melanconium, 82 — Melanochlamys, 62 — Meliola, 60 — Micropeltis, 62 — Monotospora, 87 — Myrothecium, 93 — Nectria, 69 — Nectriella, 69 — Oospora, 85 — Ophiobolus, 68 — Periconia, 87 — Pestalozzia, 83 — Phaeoscutella, 62 — Phoma, 71 — Phomopsis, 71 — Phyllachora, 68 — Phyllosticta, 70 — Physalospora, 64 — Pterula, 58 — Ramularia, 85 — Reyesiella, 58 — Rhabdospora, 79 — Rosellinia, 66 — Septoria, 79 — Sordaria, 66 — Sphaerella, 67 — Sphaerobolus, 59 — Sporodesmium, 87 — Sporostachys, 92 — Steirochaete, 84 — Stemphylium, 86 — Stilbum, 91 — Tremella, 58 — Trichosporium, 87 — Trotteria, 79 — Tubercularia, 93 — Uredo, 59 — Vermicularia, 72 — Winteria, 65.

TREATMENT OF SHORTLEAF PINE AND LOBLOLLY PINE SEED WITH FUNGICIDAL DUSTS

J. R. Hamilton and L. W. R. Jackson

One of the vital problems confronting foresters in the management of forest nurseries is securing an effective treatment for the control of damping-off diseases. Since the early part of this century, the Pathologists have prescribed a variety of chemical treatments which have shown varying degrees of effectiveness. The most extensively used treatments have been aqueous solutions of formaldehyde, sulphuric acid and aluminum sulfate which are applied to the surface of the prepared beds at the time of sowing. During the past two decades, a variety of fungicidal dusts have been widely used for the control of diseases of field crops. Thus far, very few reports have been made on the use of chemical seed protectants for the control of tree seedling diseases. The chief purpose of the study reported in this paper was to determine the effect of various levels of dosage of fungicidal dusts on the germination and emergence of unstratified and stratified seed of shortleaf pine and loblolly pine.

HISTORICAL REVIEW

There are only a few reports in the literature on the treatment of tree seed with chemical protectants. In 1921, Hartley (3) reported that he could see no advantage in seed treatment except in the prevention of seed decay before the start of germination.

In one of the earliest reports, Metcalf (6) treated redwood seed with Semesan, Bayer dust and mercuric chloride. In 1929, Baldwin (1) treated white pine seed with Uspulun and Dip-dust. Uspulun caused chemical injury while Dip-dust increased germination by 10 percent. In 1934, Horsfall (5) et al. stated that red copper oxide treatment injured Scotch pine seed and increased the germination of mugho pine seed. In 1938, Davis et al. (2) stated that preliminary tests on the treatment of conifer seeds with fungicidal dusts and dips had been inconclusive. Nevertheless, they thought that further trials were needed, especially where the treatment of the seed bed is not practical and where the losses are due to pre-emergence damping-off.

In 1939, Horsfall et al. (4) reported that the treatment of pine seed with red copper oxide and zinc oxide proved effective. They recommended that one-half teaspoon of the fungicide be applied per pound of seed and then rotated in a drum with baffles for 30 to 40 revolutions.

METHODS

The fungicides tested in the experiment were as follows; Arasan, 50 percent active material, Barbak C., New improved Ceresan (5 percent active material), Fermate (20 percent active material), Phygon (80 percent active material), Puratized 641, New Improved Semesan Jr. (1 percent active material), Yellow Cuprocide (100 percent active material), and a 1:1000 aqueous solution of mercuric chloride. The dosage levels of the dusts used were 1.0, 0.25 and 0.0625 percent of the seed weight. Glass vials of the treated seed were rotated in a small drum with baffles until the seeds were thoroughly coated, which required approximately 460 revolutions. Seed was soaked in the mercuric chloride solution for one minute.

The seed was stratified in a mixture of peat moss and sand for 30 days at 10^{o} C.

The seed were germinated in flats of untreated Norfolk coarse sand. The daily air temperature during the germination period ranged from a minimum of 65^{o} F. at night to a maximum of 80^{o} F. during the day.

A planting of 2 rows of 25 seeds was made of each treatment. Daily counts were made of the emerged seedlings. All of the germination tests were run for a period of 50 days from planting. The tests were run in a split-plot design. Each treatment was replicated 3 times. The least significant differences between treatment means and dosage level means were determined by analysis of variance.

EXPERIMENTAL RESULTS

Treatment of Unstratified Seed

Loblolly pine seed: -- The average germination of the control was 30.6 percent. The germination in the treated series ranged from a minimum of 16.6 percent for Puratized 641 to a maximum of 38.6 percent for 0.25 percent Phygon.

The following treatments increased the percentage of germination; 0.25 percent Fermate,

and 0.06 percent Semesan Jr. The other dosage levels of the fungicides tested did not increase the germination percentage. All of the dosage levels of Yellow Cuprocide, Barbak C., Ceresan and Puratized 641 decreased germination. Mercuric chloride also decreased germination.

There was not a sufficient amount of damping-off in this series of treatments to determine the relative efficacy of the various fungicides.

Shortleaf pine seed: -- In this series of treatments, the average germination of the control was 57.6 percent. In the treated series, the germination ranged from a minimum of 40 percent for 1 percent Puratized 641 to a maximum of 70 percent for 0.06 percent Fermate. The following treatments increased the percentage of germination: 1 percent Yellow Cuprocide; 0.25 and 0.06 percent Arasan, Barbak C, Fermate, Phygon, Puratized 641, and Yellow Cuprocide; 0.06 percent Ceresan; 0.25 percent Semesan Jr. All the other dosage levels of the fungicides, including mercuric chloride, decreased the percentage of germination.

The percentage of damping-off was reduced by the following treatments: 1 percent Barbak C, Ceresan, Phygon, Yellow Cuprocide; and 0.06 percent Semesan Jr. Mercuric chloride also reduced damping-off.

Treatment of Stratified Seed

Loblolly pine seed: -- Germination of the control was 55.2 percent. The germination of the treated series ranged from a minimum of 48.8 percent for 1 percent Semesan, Jr. to a maximum of 71.4 percent for 0.25 percent Phygon. The percentage of germination was increased by the following treatments: all the treatments at the 1 percent level, except Ceresan and Semesan Jr.; all the treatments except Ceresan at the 0.25 percent level; and all the treatments except Yellow Cuprocide at the 0.06 level.

There was not sufficient damping-off in this series to indicate the relative efficacy of the various fungicides.

Shortleaf pine seed: -- The average germination of the control was 53.2 percent. Germination of the treated series ranged from a minimum of 36.0 percent for Puratized 641 to a maximum of 68.6 percent for 0.06 percent Puratized 641.

The following treatments increased the percentage of germination: 1 percent Fermate, Semesan Jr., and Yellow Cuprocide; 0.25 percent Ceresan, Yellow Cuprocide, Fermate, and Semesan Jr.; and 0.06 percent Arasan, Barbak C, Ceresan, Fermate, Phygon, Puratized 641 and Yellow Cuprocide.

The percentage of damping-off was reduced by the following treatments; 1 percent Fermate, Phygon; all the treatments except Barbak C at the 0.25 percent level; 0.06 percent Arasan, Barbak C, Puratized 641, and Yellow Cuprocide.

SUMMARY

A study was made of the effect of 3 dosage levels of each of 8 fungicidal dusts on the germination of stratified and unstratified shortleaf pine and loblolly pine seed.

According to the results of this experiment, the 0.25 and 0.06 percent dosages of the various fungicides resulted in a larger number of emergence increase percentages than did the 1 percent dosages.

In the unstratified seed series, including both species, the number of treatments that resulted in increased emergence were as follows: 4 of 16 for 1 percent dosage, 8 of 16 for the 0.25 percent dosage, and 7 of 16 for the 0.06 percent dosage.

In the stratified seed series, including both species, the number of treatments that resulted in increased emergence were as follows: 9 of 16 for 1 percent dosage, 11 of 16 for 0.25 percent dosage, and 14 of 16 for the 0.06 percent dosage.

For all treatments, including both species, the number of treatments that increased emergence were as follows: 13 of 32 for 1 percent dosage, 19 of 32 for the 0.25 percent dosage, and 24 of 32 for the 0.06 percent dosage.

According to the results of this study, the fungicidal dusts at particularly the 0.25 and 0.06 percent dosages, can be used for the treatment of unstratified and stratified seed.

There was not sufficient damping-off in the treatment series to yield an evaluation of the relative efficacy of the fungicidal dusts.

Literature Cited

1. Baldwin, H. I. Seed disinfectants in forest tree seed testing. For. Worker 5: 20-21. 1929.

2. Davis, W. C., G. Y. Young, D. H. Latham, and C. Hartley. Diseases of conifers in forest nurseries, U. S. Dept. Agr., Bur. Plant Ind., Div. of Forest Pathology (mimeog.). 1938.
3. Hartley, Carl. Damping-off in forest nurseries, U. S. Dept. Agr. Bul. 934. 1921.
4. Horsfall, J. G. Damping-off control. New York (Geneva) Agr. Expt. Sta. Circ. 186. 1939.
5. _____, A. G. Newhall, and C. E. F. Guterman. Dusting miscellaneous seeds with red copper oxide to combat damping-off. New York (Geneva) Agr. Expt. Sta. Bul. 643. 1934.
6. Metcalf, W. Fumigation and sterilizing tree seed. Jour. For. 23: 508-512. 1925.

GEORGIA AGRICULTURAL EXPERIMENT STATION AND UNIVERSITY OF GEORGIA, ATHENS

NEW OR UNUSUAL RECORDS OF PLANT DISEASE OCCURRENCE

ANTHRACNOSE ON MICHIGAN PEACHES

By M. A. Smith

On August 30, 1950, anthracnose was found in a commercial shipment of Halehaven peaches from St. Joseph, Michigan.

The causal fungus was readily isolated in pure culture, and its pathogenicity to peaches and apples was proved by inoculations. The organism is pink, the color being that of the mycelium itself. After ten days' growth on potato-dextrose agar perithecia had begun to form and mature asci and ascospores were observed after 30 days' growth at a temperature of 77° F.

Conidia averaged 5.7 x 18.4 microns; asci averaged 10.2 x 57.0 microns; and ascospores averaged 6.3 x 17.3 microns.

Many workers have reported the production of the perfect stage by gray or gray-green strains of Glomerella cingulata. This appears to be the first recorded instance of the production of the perfect stage by a pink strain of the fungus and, insofar as can be determined, this is the first report of the occurrence of anthracnose on Michigan peaches.

DIVISION OF FRUIT AND VEGETABLE CROPS AND DISEASES, CHICAGO, ILLINOIS

THE OCCURRENCE OF TOBACCO ANTHRACNOSE IN NORTH CAROLINA

By C. J. Nusbaum

Tobacco anthracnose (Colletotrichum sp.) has been observed in plant beds in five counties in North Carolina. Specimens showing heavily sporulating lesions on the leaves were brought into the laboratory from a plant bed in Columbus County April 4. A few days later additional specimens were received from Craven and Carteret Counties. In mid-April, the disease was found in Johnson and Edgecombe Counties. Disease development at the Columbus County site was restricted to a small spot in one bed. In Craven County the disease appeared in small areas scattered over one bed site and reduced the stand of plants. In other locations the disease was scattered and of little consequence.

Isolations were made and inoculation of tobacco plants in the greenhouse, using spores from pure cultures, produced symptoms similar to those observed in the original material. Although it seems likely that anthracnose has occurred previously in North Carolina, no published reports of its occurrence in this State have been found.

PLANT PATHOLOGY LABORATORIES, NORTH CAROLINA STATE COLLEGE, RALEIGH, NORTH CAROLINA